7: International Bank N, S-4 (1951) 1952 MH1 Iraq MH1

relieved by low ranges and depressed areas of which the major one is the Wadi Tharthar. It is sparsely inhabited by pastoral nomads although in the North some settled farming, made speculative by irregular rainfall, is carried on.

The second region, extending downstream from Ramadi on the Euphrates and Baghdad on the Tigris and including the Diyala River Valley, is the area where most irrigation projects have been carried out in the past. Pump irrigation predominates on the banks of the three rivers where the land is high and water is easily accessible. For the more remote areas flow irrigation is provided by canals dependent on the Hindiya barrage on the Euphrates, the Kut barrage on the Tigris and the Diyala weir on the Diyala River. Here flow irrigation between the two main rivers is facilitated by the fact that in the Baghdad region the Euphrates is higher than the Tigris, while below Baghdad the Tigris is above the Euphrates. In this region barley is the principal winter crop, followed by wheat. Summer crops are limited by lack of water, but among them cotton has become in recent years by far the most prominent, leaving sorghum, sesame, green gram, corn and millet far behind. Fruit culture is important. Dates are widely grown, both for domestic consumption and for export; and the Diyala Valley in particular produces excellent citrus fruit. Rice is an important crop between Nejf and Diwaniya on the Euphrates and around Rumaitha farther down the river. The country's major concentration of population lies in the region comprising the district about Baghdad and the provinces of Hilla, Kerbela and parts of Kut and Diwaniya. It includes the capital, Baghdad, a city with a population of 550,000 and the leading commercial and industrial center of the country.

The third region—the Basra, Nasiriya, Amara triangle—is generally one vast marsh during the spring floods. Here the rural dwellings are of reeds and brushwood, in contrast to the rest of the country where mud huts and, in the mountains of the North, stone houses predominate. Rice grown in the naturally inundated marshland is the staple food, varied by fish; and the water buffalo is the prevailing type of livestock. Here also is the world's largest date palm belt stretching along both sides of the Shatt al Arab and contributing one of Iraq's principal exports. Basra, Iraq's only port, is the largest city of this region and handles most of the country's foreign trade.

7: International Bank N, S-4 (1951) 1952 MH1 Iraq MH1

little more than one ton left to sell and he might even have to keep part of this for his draft animals, if they are unable to find enough stubble and other natural fodder.

The price which a fellah gets for his grain is usually very much less than the wholesale market price in Basra or Baghdad. Although rail transport is very cheap for grains, the other costs such as local transport, bagging, weighing and storage are high; the merchants' profit and the *istihlak* tax also have to be deducted. Finally, the fellah's funds are usually exhausted before the harvest season and he frequently accepts a low forward price on his crop before it is gathered. For the 1950-51 crop, prices have been high (over ID 20 per ton), but many fellahin undoubtedly sold forward at prices little over ID 10. This would not be an unusual price in past seasons. Thus, ID 10 for the winter crop and perhaps another ID 10 for a small summer crop of sesame would constitute his total cash income for the year.

This income would usually be spent on food, clothing and possibly some low-grade domestic tobacco. Two of the most important items in food expenditure are sugar and tea. Dates, particularly in the South, and a few vegetables such as onions are also purchased, but, on the whole, most fruit and vegetables are beyond the reach of the fellah and are sold in the towns. Meat is only eaten occasionally, although fish is available in the marsh areas of the South. Nor does the fellah who owns no animals other than his draft animals consume much milk or *leban* (sour milk). Clothing would consist of some cheap cotton sheeting sufficient for a few garments and occasionally a second-hand jacket; few fellahin wear shoes. Hardly anything is spent on housing or furniture, the living quarters being a small mud hut without windows and hardly any furnishing but a few mats and cooking utensils. Soap, for example, is undoubtedly a luxury. Life is not far above the subsistence level and must often be below it.

In the process of selling his surplus crop and making his small purchases, the fellah is taxed. While with crops consumed in Iraq the *istihlak* tax is largely borne by the buyer, in the case of an export crop such as barley, which is influenced by world prices, the tax falls most heavily on the producer. At the end of 1950, customs duties on sugar were about one fifth to one quarter of the

7: International Bank N, S-4 (1951) 1952 MH1 Iraq MH1

439 433 As Iraq has such a large share in the world's trade, variations in the size of the crop can cause large fluctuations in price and, in a prolific year, marketing difficulties. Since 1939 the burden of marketing the prime quality varieties (Khadrawi, Hallawi and Sayer), which are sold in the United Kingdom, Western Europe, North America and Australia, has been largely removed by a series of bulk contracts between the Date Association and a British company, under which the latter has agreed to purchase at a fixed price all dates of these varieties grown in Basra province.

No such scheme exists for the Zahdi and other lower quality dates. Their principal markets are in India, Egypt and other countries of the Far and Middle East to which much of the trade is carried in the traditional Persian Gulf sailing ships. Disposal of the extremely large 1950-51 crop through the normal channels proved impossible and the price of Zahdi dates fell during 1951 to a point where it was hardly remunerative to transport them to Basra. Faced with this situation, the government sent a trade mission to India and Pakistan and succeeded in making agreements with those countries which provided, among other things, for increased imports of dates.

Cereals. Barley is the only cereal now exported in large quantities, but the quantity is subject to extreme fluctuations owing to the great variability in the crop. On the average, exports have increased considerably over the years. In the latter half of the twenties, they averaged 100,000 tons and before the war 230,000 tons. From 1945 to 1947 they were around 250,000 tons annually, but successive bad harvests in 1947 and 1948 led to a temporary ban on exports in 1948, when less than 3,000 tons were exported. Two bumper crops followed, however, and in 1949 and 1950 exports, which had not before exceeded 300,000 tons, amounted to 326,000 and 462,000 tons respectively.

433 439 262 There was normally a surplus of wheat for export before the war; in 1937, the best year, over 100,000 tons were exported. Since the war, however, exports have been negligible except in 1950, while in 1948 and 1949 there were considerable imports as a consequence of the bad harvests. On balance, therefore, Iraq cannot at present be considered an exporter of wheat. This is, no doubt, due to the increasing consumption of wheat in the country, as a

7: International Bank N, S-4 (1951) 1952 MH1 Iraq MH1

consequence not only of the increase in population, but also of the shift from the rural areas, where barley is often a staple element in the diet. 438 439 262

Large quantities of rice are produced, but the surplus for export has always been very small. The only other cereal exported in any quantity is millet.

Animal Produce. The principal animal products exported by Iraq are wool, live animals, hides and skins and casings (intestines), usually in that order of importance. The sheep is the main source of these products, providing all the wool and usually the bulk of the other products. As with dates and cereals, the quantities exported vary greatly from year to year, sheep being vulnerable not only to disease, but also to extremes of winter cold and summer drought. In contrast with the other main exports, however, there has been no tendency for exports of animal products to increase. Exports of wool, hides and skins have, on the whole, been below prewar levels, while those of casings have fallen off badly. As animals are often taken across the frontier on the hoof, customs returns of live animals exported are not reliable. The recorded decrease since before the war, is, however, too large to be discounted. 433 439

Information on the animal population and on the domestic consumption of meat and other products is sketchy and unreliable. A rise in the consumption of meat could well explain the loss of exports of live animals, but this in turn would tend to make available a larger, not smaller, supply of most by-products. Part of the explanation of the fall in export products may lie in a declining sheep population owing to the gradual shift from the pastoral life to settled agriculture and from agriculture to the towns. The monograph on agriculture and animal husbandry discusses the shortcomings of the livestock industry and recommends measures to improve livestock raising and the quality of livestock products. The value of exports of animal products is likely to continue its downward trend unless these measures are undertaken speedily and vigorously. [233 162]

Sheep are especially important as a potential source of dollars. Wool is the most important export to the United States, which also takes all the casings exported and considerable quantities of 439 457

7: International Bank N, S-4 (1951) 1952 MH1 Iraq MH1

varieties of pistachio scions on established native pistachio trees should be given particular attention. Almond orchards could be increased to advantage.

Vegetables and Potatoes

Vegetable culture is concentrated in the neighborhood of the large cities where such products as radishes, lettuce, cabbage, cucumbers, squash, tomatoes and others are in good supply during the season. Unfortunately vegetables do not figure prominently in the diet of most people. Outside of the big towns little or no vegetables are eaten. In part, this appears to be due to the fact that tribal tradition holds the cultivation of vegetables in low esteem. However, where the sharecropper is inclined to grow vegetables, he may be discouraged by the lack of available land or the shifting of the area assigned to him for cultivation. If a determined effort were made by the government to enlist the cooperation of the landowners, it might not be too difficult to overcome these obstacles.

It might be desirable to increase the production of potatoes which are now imported to the value of about ID 100,000 per year. The lighter soils along the large streams in the provinces of Mosul, Erbil and Suleimaniya are particularly well adapted to the production of both Irish and sweet potatoes. With proper guidance in cultural practices and the use of fertilizers, planters in these areas could easily supply the country's needs. If it is demonstrated that potato yields compare favorably with other crops, the government might well encourage the planting of potatoes both by launching an educational campaign and by furnishing the necessary seed to planters. Special attention will need to be given to transport, however, and the growers will have to be shown how to build inexpensive potato bins or pits with sufficient ventilation, insulation and accessibility.

Tobacco

Tobacco has been grown to some extent in the North for centuries, although it was not until the last few decades that its production assumed importance. Even now, the value of the tobacco crop is probably no more than a tenth of that of wheat or barley. In the mountainous areas of Erbil and Suleimaniya, however, it is

8:Campbell T-5 (no date) 1949 MH1 Iraq MH1

would know the difference.' They went on to point out large numbers of sheep dotted around the horizon and they explained that had there been a large number of camels with a few sheep, then bedouin would have been indicated. Instead there was a large number of sheep with a few camels, indicating Arabs. They had to go on to explain that by Arabs they meant the great landowning Shia tribes, who are in the main cultivators of rice, dates, barley and a variety of other crops, but they send out their sheep on long treks through the desert in charge of some of their families in search of grass.

Most of the Arab tribes are dwellers in houses or clean, cool huts made of reed matting, which allows for a constant current of air through the hut, and prevents the temperature from rising to that of an oven in the hot sun, like a house. Many of these stories were told in a large guest house or tent pitched amongst the houses, with a background of sound varying from that of the cooking of a meal of several roast sheep to the powerful thump, thump, thump, of the great pumps. These pumps deserve mention, since they are often a tribe's principal pride and source of wealth. At one place I was surprised to hear that a boy's name was Rustam, since this name is more common amongst Persians and Kurds than amongst Arabs, but it was explained to me that he was named after the pump, and I understood when I saw the name Rustom stamped on an iron plate on the great cylinder.

The Arab tribes have a great military history of which they are justly proud. It is long and somewhat complicated, and to give in full the history of a single tribe as told by the sheikhs would fill a book greater in size than this. I will, however, give a précis of the history of that great group of tribes which were known as the Muntafiq.

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*539 they entered the palace like cats, in the second half of the night, and the alarm was not raised. And the Amir went into the room of the girl Aliya. The night was hot and she had cast off her clothes. And when the Amir saw the beauty of her body he was amazed, and he was near to fainting with wonder. But he covered the girl Aliya and took her to the horses, and they rode into the desert. And in the morning they halted and she cooked for them food. [262] When they had eaten of meat and rice and dates and lebn the derwish spoke to the Amir and said: It is written that we must divide this girl between us and each have his share of her, for if two are partners in labour they must share the achievement. And the Amir said: This suggestion is unsuitable, nor can it happen thus. And the girl heard and was amazed at the words of the derwish. But the derwish insisted and said: A division is written as the fate of this girl, and I have no power to alter it. The Amir thought: This derwish is one of the princes of magicians, and he has befriended me. So he said: If it is thus, then it shall be done according to your wishes, but how shall we divide her, up and down, or across? And the derwish replied: Up and down, for then each of us shall have a beautiful eye and a breast and an arm and a leg and it will be even between us, and neither shall have an advantage. The girl Aliya heard these words and became afraid. She cast herself at the derwish's feet and cried: O my masters, cast lots between yourselves as to which is to have me, but do not divide me. But the derwish said: It is necessary. And he drew his sword and waved it over the girl and *539 was about to strike, and the Amir Kheyyun covered his 825 eyes from the spectacle. But at that very moment the girl's mouth opened and the head of a snake appeared from it. And the derwish cried: Come out, Zeboshun,

539
776 WHAT do you know of El Iraq, you who are boys? I was an old man before the First German War, and I know the country and its history, yet you say there is no monster in the Hor el Hammar. I have seen it, thirty years ago, for this monster takes on the shape of a woman, and it beckons to a man that he may enter the lake, and every twelve years it must eat a man. I have seen it beckoning on the edge of the lake on the nights when there was no moon, but I did not follow it, for I knew its history, and I know that a man must carry a needle when away from his house at night, yet you know nothing of these things, and you are like Abdul Rehman Abu Sultan, who was so ignorant that he desired nothing but money, and who was so foolish that he tried to rob the dead without listening to warnings or heeding cautions that the sons of Adam shall not meddle with magic and strange matters, nor shall they interfere with those that live beyond the end of the world, nor shall they disturb those that await the Last Day.

x 539 Abdul Rehman Abu Sultan was a carpenter of Basra, and he lived in his house with a young and lovely wife and with a fine son, yet he was not happy, for his earnings [342 were few and his house was a poor house of bowari 262] matting and his food was but dates and bread. And winter came and the rains fell and everything in Abdul Rehman's house was wet, even to the blankets of his bed, for the matting did not keep out the rain, and the cold wind whistled through the walls of his house, and he was in a miserable and desperate state, so he went to the coffee-house to get warm and he met there his friends, and he discussed his condition, saying: How can I get money to buy a dry house, and a sheep for the feast and clothes for my wife? And they replied, and said: Did we but know a

3:Royal Institute of International Affairs U-4 (no date)1954 M1 Middle East
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yield of nearly twice that of wheat, it is more popular with farmers. In normal years Iraq grows sufficient barley to ensure an exportable surplus of some 300,000 tons. The main importers in 1950 were Holland and Great Britain.

Rice is grown mainly in the marshes of the Lower Tigris and Euphrates near Amara and Suq ash-Shuyukh and in the Hilla and Diwaniya *liwas*, especially in the marshes around Shamiya. A small quantity is grown by irrigation in the valleys of the Kurdish areas. It is sown as a summer crop for harvesting between September and November. Its yield and price are usually higher than those of wheat or barley, but it is more extravagant of water and its cultivation is therefore restricted by law (1932). Before the war there was a small exportable surplus, but exports in recent years have been confined to limited amounts of the inferior qualities.

Dates. Iraqi dates constitute four-fifths of the world's production; the Government has a special interest in their cultivation and marketing. The Shatt al-Arab area above Basra, where growing, packing, and marketing are managed by a Date Board representing all interests, has 18 million[1] trees; the other main producing area in Iraq is on the Euphrates upstream from Nasiriya. Date-palms need a plentiful supply of water, but its quality and that of the soil is less important. Some 350 varieties of date are said to be grown in Iraq, of which only four are usually exported in quantity. Total annual production in normal times averages about 288,000 tons; of this about half is exported and half consumed within Iraq, either as food—dates are a staple item of diet—in natural form or as date syrup, or as raw material for the spirit industry. Of the by-products, the fibrous trunk is used for rope-making and the powdered stone for cattle fodder. Selection and packing for export are improving greatly under the supervision of the Government Date Board. The main importers of Iraqi dates were, in 1950, India, the United States, Egypt, Great Britain, Canada, and Pakistan.

Forests

The forests of Iraq, covering an area of 18,000 square kilometres, are of variable density. They were at one time far denser and more extensive, but have been and are still being reduced by shifting cultivation, fires, and uncontrolled cutting and grazing. The Forestry Department of the Ministry of Agriculture is undertaking a programme of conservation and afforestation, which will safeguard the soil, increase timber and

[1] The official figure; the IBRD report gives a figure of only 9·7 million.

5: Harrison D-4 (1912-1924) 1924 M1 Middle East
Iraq MH1

[Marsh Arabs]

It is customary to abuse the Turkish Government as responsible for these conditions. That government has much to answer for, but it is doubtful whether even the efficient and benevolent rule of the British will improve the lot of the date gardener a great deal so long as the present system remains unchanged. The trouble is that the owner has no contact with his gardener except through his agent, and is coerced by no intelligent and effective public sentiment. Whether in Turkish or British territory, he lives under a government built on the theory that contracts made in good faith must be executed at all costs and that knows no redress for the gardener except that he seek employment elsewhere, a thing that is very difficult to do. The adjustments possible in the oases of Arabia, where it is the function of the sheikh to modify oppressive contracts and where it is understood that an unfavorable reputation will speedily endanger the life of the land-owner, are out of the question in Mesopotamia.

In addition to the date gardeners who cultivate the irrigated land along the last hundred miles of the Arab River from Gurna to the Gulf, there are also a number of so-called Marsh Arabs along the rivers in Lower Mesopotamia, who raise rice, wheat and barley on land that is overflowed in the spring when water is high. Rice is their favorite crop and the one that is most reliable. In that country the visitor is surprised at being served with loaves of bread of the usual flat pancake-shape but snowy white instead of the light brown color of the whole wheat flour which is universal over all Arabia. I asked my host with much surprise whether he imported his flour from Bombay and he laughed. He hardly knew where

[Marsh Arabs]

243 Bombay was. "No," he said, "here we make our bread
262 from rice flour. When the wheat crop is a failure, as in the past year, we have almost nothing else."

312 These overflow districts,* which are marshes in the spring when the rivers overflow, dry down to hard soil later in the year. To keep the water high for a few weeks longer than it would naturally remain so, temporary dams are constructed across some of the smaller streams, leaving an opening to allow boats to pass and water to run through. These dams persist in the face [342] of a strong current in a way that is surprising. Mud, tree branches, mats, soil and the like seem to be the only building material, for there is no stone within hundreds of [476] miles. The dams require a large amount of labor, and of course are coöperative enterprises. Possibly because of this necessity for coöperative effort, the Marsh Arab communities appear to have developed a good degree of community spirit.

361 Like their race everywhere, these Marsh Arabs do not live in isolated individual houses in the midst of their fields but collect in larger or smaller towns, some of them of considerable size. These towns are located usually in the fork of a river, or where several streams come together. In Lower Mesopotamia there are many small channels that carry water either ~~out~~ of the main
501 river or into it. The Marsh Arabs get about in picturesque, high-prowed, black river boats, black because they are covered with a thick coat of native bitumen which wells from the ground in one or two places in Mesopo- [135] tamia and is an indication, so the engineers tell us, that petroleum is to be found in that country. These river boats, which are the one means of transportation, are built somewhat on the lines of a canoe and take consid-

*[along the last 100 miles of the Arab river from Gurna to the Gulf -- Analyst]

Simmons et al G-5 (1941-1951) 1954
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pal population centers and radiate from Baghdad and Mosul to cities in Syria, Iran and Turkey. The Tigris is navigable to barges from Basra to Baghdad throughout the year, and to smaller craft as far as Mosul during the high-water season. The Shatt al Arab is open to ocean-going vessels, and Basra, about 85 miles from the Persian Gulf, is one of the major ports of the Middle East. A government-operated railroad, part of the famous "Berlin to Baghdad" railway, runs from Basra to Baghdad and Mosul, with connections through Aleppo to Istanbul. A branch line extends from Baghdad to Kirkuk, Erbil and Khanaquin. A government-owned airline serves Iraq and the neighboring countries, while international lines from Europe to Africa and the Far East stop at Baghdad and Basra.

Food and Nutrition

The nutrition of the people is governed by the cultural habits of the different racial and social communities, the economic status of the individual families and the food supplies available under diverse climatic conditions. Undernutrition is prevalent among the poorer inhabitants—tenant cultivators, urban laborers and nomadic tribes—who make up over three quarters of the population. Wheat, barley, rice and dates are the staple food crops of the country, while vegetables and fruits, other than dates, are frequently scarce. Wheat is widely grown, primarily in the rainfall areas of the north, but also in the irrigated riverain zones of the south. Barley is cultivated extensively, and, like wheat, is used in the preparation of breads and of *burghul*, a coarse-grained cereal product typical of this region. Millet and maize are common crops in the south. Rice is produced in certain lowland districts in the Kurdish highlands and on the fringes of the southern marshes, and is a popular food among all sections of the population. Peas, beans and lentils are usually consumed throughout the year, and tomatoes, eggplant and different root and green vege-

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tables in season. Citrus fruits flourish in the irrigated areas of Kerbela province and in the Diyala river valley, while grapes, apricots and other fruits grow in various localities. Numerous species of dates are cultivated, especially in the Shatt al Arab and lower Euphrates basins: they represent one of the basic foods of the people.

The financial circumstances of most families prohibit the consumption of meat, except at irregular intervals. Sheep and goats are raised in large numbers, both by the settled and the nomadic peoples, and constitute the principal sources of meat. Fish are a valuable food among the peoples living in the river valleys and along the coast. Fowl are kept in the rural villages. Milk is a standard article of diet wherever it is obtainable. The milk of sheep or goats is most widely used, but that of cows, water buffaloes and camels is utilized in many areas. Milk is normally consumed in the form of buttermilk or a soured milk product, known as *leban*. Cheese is also made, but it is rarely as popular as in other Arab countries. Clarified butter and the fats derived from the tail tissues of the local breeds of sheep are important sources of fat among all population groups.

The least diversified diets are probably found among the nomadic tribes, who subsist on the products of their herds, supplemented by dates and wheat or barley breads. Camel's milk is employed by the nomadic Bedouin. The tribal Arabs of the southern marshes depend largely upon the milk of the water buffalo, fish and wild waterfowl, rice and occasional edible rushes.

Measures to raise the standards of nutrition among the various urban and rural groups are being studied by educational and health authorities. Improper feeding in infancy, particularly in the course of weaning, which is often deferred until the second year of life, is a factor contributing to the high mortality among young children. The organization of a national nutrition committee, to function in an advisory capacity to the governmental agencies concerned, and

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Adiantum Capillus-Veneris L. (Polypodiaceae)

پر سیاوش

Parr-i-siyāvash, Kashburat (Teh.); Kashburat-el-bir, "coriander of the wall" (Pers.); Krafas-al-bir, Shar-al-anat (Iraq); Kansburaj, Moohar-khas (Ind. bazaars); the fronds.

Ait.; Post; Schl.; Ph. Ind. 3: 624.

Field 49; W.H.M.M. 150714; K.B. 302.

The maidenhair fern is found in Iran, Afghanistan, the northwestern Himalayas, and western China, but other species of ferns are used medicinally and are called by similar names. The fronds of the fern are usually supplied, but the rhizome is credited with expectorant properties and is given for relieving difficult respiration and for spasms in whooping cough.

—A maidenhair fern decoction is served as a cooling drink during the summer (H.F.). [272]

Agaric (Fungi) [262]

قارچ

Qārch (Teh.); Kriwarik (Turk.); dried mushrooms.

Field 242; W.H.M.M. 150775.

This is a portion of a hard fungus, gray brown on the outside and whitish within, 4 to 5 inches across. A notation is made on one sample that it is a vermifuge. Schlimmer identifies "Ghartsche" as *Agaricus esculentus*, one of the edible mushrooms, of which there are numerous species. For agaricum of the Greeks, Ghariqun, see *Polyporus officinalis*.

Alhagi camelorum Fisch. (Leguminosae)

ترنجبین

Tar-anjubin (Teh.); "green honey"; manna.

Field 1; W.H.M.M. 150888.

The camel's thorn (Kār shūtur, Pers.) is a thorny shrub found in the deserts of Iran, Syria, and Egypt. A saccharine exudation forms on the plant. It is shaken off the branches, collected, and used as a sweetmeat and in medicine. It is supposed to be the "greenish cake" of Layard's "Travels," but this secretion was collected from oak trees (see *Quercus*). The white grains of manna separated from the pods, stalks, and leaves contain chiefly cane sugar; this is administered as a laxative and expectorant. [314] [263]

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Allium Akaka Gmel. (Liliaceae)

والک

Vālik (Teh.); the plant.

W.H.M.M. 150838.

This plant is found in Europe and northern Asia, and is the Welec or Weleque of Ehlicher. The specimen is represented by the entire plant: leaves, pinkish green flowers, and bulbs, having a strong alliaceous odor.

Allium Cepa L. (Liliaceae)

تخم پیاز

Tukhm-i-piyāz (Teh.); Basal (Ar.); Goondina (Pers.); Piaz (Kurd.); the seeds.

Field 41, 415; W.H.M.M. 150831.

[262] The onion is probably the earliest kind of food plant and is widely cultivated in tropical, subtropical, and temperate countries. Its small, black, corrugated seeds are sold in all the bazaars of Iran and are regarded as a demulcent and stimulant.—Boiled with sugar and almond oil they are given as a purgative during typhoid fever (H.F.).

Allium sativum L. (Liliaceae)

تخم ترہ

Tukhm-i-tarrah (Teh.); (tarrah is the Persian name for potherb); the seeds.

Boiss. 5: 229.

Field 40; W.H.M.M. 150883; K.B. 302.

[262] Under this name the black, angular seeds of garlic are sold in the bazaars, having similar properties to those of the onion. They are eaten with cheese.

Sir (Teh., Iraq); Som (Ar.); Thum (Turk.); Lehsan (Hind.); garlic.

Field 47A, 77, 115 (Iraq).

[263] This is the bulb of the garlic, containing several daughter bulbs or cloves. They have a peculiarly pungent and disagreeable odor and an acrid and burning taste. The garlic is *par excellence* the potherb of the East, aids digestion, and is a gastric stimulant. Three kinds of the plant are grown in Iran: Bustani (garden), Bari (wild), and Kirathi (leek-like).

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Field 244.

Tabashir is a siliceous concretion found in the hollow stems of bamboo plants, and is a valuable Hindu medicine. It occurs as hard, white, opaque, mineral-like fragments of various shapes. The sample from Tehran, bearing the above vernacular name, consisted of burnt bones, and was not true tabashir.—It could not, however, be considered a fraudulent substitute for the authentic drug, as it was labeled "Calcined bones for toothpowder" (H.F.).

Berberis vulgaris L. (Berberidaceae)

زرشک گلی

Zirishk-i-guli (Ham., Teh.); Zarishk (Hind., Bom.); the fruits.

Achundow; Ait.; Schl.; Boiss. 1: 103; Ph. Ind. 1: 65.

W.H.M.M. 150841; K.B. 306.

The Indian barberry is a common shrub growing in the hilly districts of India and Iran, and the berries are largely collected and appreciated as a condiment or made into jam. In the Punjab the fruits and preserve are called Zirishk-tursh (sour currants) to distinguish them in the trade from the small, black, dried grapes known in Europe as currants or corinths. The consumption of these acid fruits in medicine is said to relieve itch and other skin complaints.

[263]

—A specimen of dried *Berberis* fruits in the collections of the American School for Boys, Baghdad, bears the label Zirishk. Barberries are used as a decoction for general health and to sweeten the breath (H.F.).

Beta vulgaris L. (Chenopodiaceae)

[262]

تخم چقندر

Tukhm-i-chuqundur (Teh.); Chuk-andar (Hind.); common beet.

Field 28 (Iraq); W.H.M.M. 150787.

These are small, cup-shaped fruits with light brown seeds, which taste saltish. In Iran they are cultivated largely as a vegetable. The seeds of the beet are sold in Indian bazaars for medicinal use under the name of Chukander (Ph. Ind. 3: 148).

There are several varieties grown in Iraq:

(1) Beetroot. Chukundar (Turk.). The root is eaten.

(2) Spinach beet. Siliq (Turk.); common. The leaves are cooked and eaten as a substitute for spinach.

(3) Sugar beet. Shuwandar sukari. Climate of the Baghdad area is unsuitable for cultivation.

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824* **Capparis spinosa** L. (Capparidaceae)
278* ریشه کبار

Rishah-i-kabar (Teh.); Kabar (Pers., Iraq); the bark.

Ph. Ind. 1: 131; Boiss. 1: 420.

Field 200; W.H.M.M. 150803; K.B. 307.

The thorny caper is found in western Asia, Europe, North Africa, and Australia. It is a common shrub in the open country, forming great bushes fully 5 feet high.

• [262] Throughout Iran the flower buds are collected to be made into pickles. The light-colored root and the thick root bark are used in medicine, the bark being the Capparis Cortex Radicis of the old "Persian Pharmacopoeia." They are both pungent and bitter and are given for intermittent fever and rheumatism.

Capsicum frutescens L. (Solanaceae)

فلفل مویه

Filfil mūyeh, Filfil-i-surkh (Teh.); Filfil ahmer (Ar.); Lal mirch (Hind.); red pepper, bird pepper, chilies.

Field 96A, 111A; W.H.M.M. 150914.

[263] This species of peppers or chilies, *Capsicum* and *C. annuum*, are cultivated throughout India and Iran for their pungent fruits, and are used throughout the East for culinary purposes. Capsicums and their preparations act as a powerful local irritant. In medicinal doses chilies stimulate the alimentary canal, promoting the flow of gastric juice "to increase appetite and aid digestion."

Carthamus tinctorius L. (Compositae)

کافشه

Kāfshah, Tukhm-i-kāfshah (Teh., Ham.); the seed.

Gul-i-rang (Teh.); Gul-i-kajira, Qurtum (Ar.); Kusam (Hind.); Atractus (Gr.); safflower, the flowers.

Ait.; Post; Schl. Laufer 324; Ph. Ind. 2: 308.

Field 33, 39A, 195; W.H.M.M. 150866; K.B. 307.

[303] [386] The safflower plant is cultivated in Syria, Iran, and Afghanistan as a field crop for its red florets, which are used as a dyestuff and cosmetic. The red flowers are often supplied as a cheap substitute for saffron, the stigmas of *Crocus sativus* L.

The fruits or achenes, called parrot seed, the size of barley grains, yield by expression an oil which is used as a salve for sprains and rheumatism.

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intervals during the day. Bread must be omitted from the diet during the time of medication (H.F.).

Celosia argentea L. (Amarantaceae)

كل حلوا

Gul-i-halvā (Isf.); Sarwali (Hind.); cockscomb seeds.

Field 408.

The plant grows throughout India and tropical Asia. The pinkish and yellow flower heads, seeds, and roots are used in medicine. The seeds are lenticular, brown or black, smooth, shining, convex on both surfaces. The leaves are used for poultices; the flowering tops with seeds are given as a nervine tonic and in diarrhea. The author of the "Muffaridat-i-Nasiri" states that 180 grains of the seeds, with an equal quantity of sugar candy, taken daily in a cup of milk, is a powerful aphrodisiac. [832]

—Mixed with *Chrozophora verbascifolia* Juss., the seeds are given as an infusion for chest pains, especially during whooping cough (H.F.).

Celtis australis L. (Ulmaceae)

دغ دغان

Digh-dighane (Isf.); nettle tree.

Field 70.

This ornamental tree is cultivated in Khorasan and near Baghdad, frequently near shrines and holy places. The small, green, wrinkled fruits of *C. caucasica* Willd. are mixed with ordinary flour to be made into bread. [247] [262]

C. Tournefortii Lam., Tawak in Kurdistan, bears small edible fruits like cherries.

Chaerophyllum sp. (Umbelliferae)

قردمانا

Qurdumānā (Teh.); Keruwiah (Isf.); the fruits.

W.H.M.M. 150836.

These fruits are gray-green, elongated, 10 by 1 mm., with a faint caraway odor. Honigberger refers the Arabic Kurdamana to *Lagaecia cuminoides* having similar properties. Stapf informs us that Keruwiah brought from Chahār Mahal and sold for medicine in Isfahan is an allied umbelliferous plant, *Grammosciadium macrodon* Boiss. They are both carminative medicines.

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Field 106 (Iraq); 77A (Iran and Iraq). I-I

The colocynth is a trailing, perennial herb with mottled, green or yellow fruit about the size of a large orange, and is common in sandy desert regions in northern India, Iran, and Syria. The rind is brittle and the inner surface is covered with a soft, spongy, white substance with an intensely bitter taste. This pulp, made into an extract, is official in all the pharmacopoeias. 824 * 278 *

This is a drastic hydragogue cathartic, due to the presence of colocynthin, a crystallizable glucoside. The small, oval, brown seeds contain about 17 per cent of a fixed oil, and, with albuminous matter and salts, are edible and nutritious.

Citrullus vulgaris Schrad. (Cucurbitaceae)

تخم کرمک

Tukhm-i-garmak, Tarbuz (Teh.); Qarpuz (Turk.); Shami (Iraq); watermelon.

Field 73A, 94A; W.H.M.M. 150728.

This melon is cultivated throughout the country in the summer. The fruit is well known for its refreshing pulp, and is sometimes used as a source of water. For two months in the year the watermelon, with a little bread, may be looked upon as the food and drink of the people (Aitchison). The seeds are collected, sold, and eaten, with or without salt; they are chewed as a pastime and considered to have medicinal properties. The seeds also comprise one of the five cucurbitaceous seeds of Hindu medicine, the other four being: *Cucumis sativus* L. (cucumber); *C. Melo* L. (muskmelon, Kharbuz); *Lagenaria vulgaris* Ser. (bottle gourd or Dudhi); and *Benincasa cerifera* Savi (white tallow gourd, Kodu). They are cooling, diuretic, and nutritive. [262] •

Citrus aurantifolia (Christm.) Swingle (Rutaceae)

لیمون

Limon, Limon-amman or Limmon Basra (Iraq); Post-i-limon (Afg.); Basra lime.

Field 43A.

Hard, dry lemons or limes the size of a nutmeg, these fruits (Numi Basra) are imported into Iraq from India, and used with sugar for making a beverage called Shaf Hamidh (G.). [272]

Citrus sinensis (L.) Osbeck (Rutaceae)

Four products of the orange tree are used in medicine in Iran:

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in medicine, and are forwarded in great quantities to Turkestan.—On account of their demulcent properties, they are useful for coughs and chest complaints; the dose in Tehran is said to be ten fruits (H.F.).

Coriandrum sativum L. (Umbelliferae)

تخم کشنیز

Tukhm-i-gishnīz (Teh.); Kuzbara (Ar., Iraq); Gashnish (Turk.); Dhanya (Hind.); Koriyan (Gr.); coriander fruits.

Achundow; Schl.; Laufer; Fl. Br. Ind. 2: 177; Ph. Ind. 2: 129.

Field 30, 33A; W.H.M.M. 150918; K.B. 311.

[263] The coriander plant is cultivated in gardens throughout Iran, Afghanistan, and India. The globular fruits are a well-known spice and flavoring agent. The plant is used in salads and curries, and an infusion of the leaves is said to relieve headache.—The fruits are smoked to relieve toothache (H.F.).

Corylus Colurna L. (Cupuliferae)

فندق

Funduk (Teh.); Findaq, Bundaq (Iraq); Findak (Hind.); Indian or Constantinople hazel.

Field 66 (Iraq), 48A.

• [262] A tree of the northwestern Himalayas, Kashmir, and Afghanistan, this is a relative of the European hazel (*C. Avellana*). Its nuts are generally plentiful in the larger markets of Iran and are said to come from the north. Filberts or cobnuts contain a large quantity of sweet oil and are eaten either raw or roasted.

Cotoneaster nummularia Fisch. & Mey. (Rosaceae)

شیر خشت

Shīr Khisht, Khushk=dried (Teh.); Shir-milk, (Pers.); a saccharine exudation.

Field 126.

This is a common shrub on the Sia-Koh and Safed-Koh ranges, at an elevation of 3,000 feet and upward. It yields in certain seasons, from its smaller branches, white, sugary lumps of manna which are considered aperient and stomachic.—Mixed with water, it is considered a remedy for typhoid (H.F.). This is one of the four varieties of manna met with in Iran; the others are Tar-anjubin (*Alhagi camelorum* Fisch.), Gaz-anjabin (*Tamarix gallica* L.), and Shakr-ul-

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This small tree, indigenous to China and northeastern India, is now under cultivation throughout the greater part of India and the East. Croton seeds were known to the Persians at an early date, and were doubtless introduced from China by the caravan route through Central Asia. Described by Acosta in 1578, they were called Piñones de Malaca. The seeds contain a violently purgative oil, and are classified by the Iranis among the poisons.

Cucumis sativus L. (Cucurbitaceae)

تخم خیار

Tukhm-i-khiyār (Teh.); Khira (Punj.); Lār (Kash.); Kira (Hind.); cucumber seeds.

Field 34; W.H.M.M. 150754.

Cucumber seeds are ovate, pointed at both ends, 12 by 5 mm., notched at the apex; the cotyledons are oily and sweet.

The seeds are a favorite nutritive and demulcent, resembling in action and uses the five cucurbitaceous seeds (see *Citrullus vulgaris* Schrad.). The therapeutic action of cucumber seeds, from a local point of view, must be considered as somewhat negative, since they may be "mixed with any medicine the doctor prescribes."—They are given as an infusion for typhoid (H.F.).

Cucurbita Pepo DC. (Cucurbitaceae)

گل کدو

Gul-i-kadū (Teh., Ham.); Shijar (Iraq); Kadu (Hind.); flowers of the pumpkin.

Ait.; Schl.; Fl. Br. Ind. 2: 622.

Field 214, 92A; W.H.M.M. 150891; K.B. 312.

[262] The pumpkin is largely cultivated as a vegetable in Iran and Afghanistan. The flowers, chiefly yellow or orange corollas, are sold in the bazaars. Made into a decoction, they may be applied to the face "to improve the complexion"; they are also administered internally for chest complaints. [302]

تخم کدو

Tukhm-i-kadū (Teh.); the seeds of the pumpkin.

Field 65; W.H.M.M. 150766.

[262] The seeds are light colored, oval, 2 by 1 cm., smooth, with a marginal rim. Like the seeds of other members of the gourd family, they form a nutritive and palatable addition to ordinary diet.

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The sedge grows plentifully in moist or boggy ground. The small, dark, hairy tubers are ovate-oblong, pointed at both ends, about 2.5 cm. or less in length, brown, hard, and horny. They have a fragrance resembling lemon and cardamom. These tubers are known in Asia for their perfume and medicinal properties; they are used for cleaning the teeth and are placed among clothes to keep away insects.

[302]

Datura Stramonium L. (Solanaceae)

تخم تاتورا

Tukhm-tātūrā (Pers.); Datura (Hind.); Jouj macel (Ar.); Shinah Azqhi (Bal.); stramonium thorn apple.

Ait.; Ph. Ind. 2: 586; Y.B. Pharm. 1927, 49; Synopsis of Genus Datura, W. E. Safford, Journ. Wash. Acad. Sci., 19 Apr. 1921.

K.B. 314.

The thorn apple grows in North, Central, and South America, and was introduced at a very early date into the warm regions of Europe, Asia, and Africa. This species is a weed in Iran, and the name has been borrowed from other countries. Specimens of the seeds came from Tehran and Hamadan and the leaves from Hamadan. Both seeds and leaves are used as poultices to allay pain. The natives recognize the poisonous properties of the seeds and sometimes call them Kachola, the name for the seeds of nux vomica, as both are used for killing dogs.

Daucus Carota L. (Umbelliferae)

تخم هویج

Tukhm-i-havij, Tukhm zardak (Teh.); Jazr-ul-bostani (Ar.); Jazar, Gaizar (Iraq); Gajur (Hind.); Hawu... (Turk.); carrot fruits.

Field 120A, 203; W.H.M.M. 150887.

[262]

The carrot is greatly valued as a vegetable and much cultivated. The fruits are dull brown, oval, and compressed, the surface is rugose, marked with ridges which are distinctly winged, and the wings fringed with white teeth or bristles. The taste is balsamic, bitter, and oily. The fruit is stimulant, laxative, emollient, diuretic, and emmenagogue.

Delphinium Zalil Ait. & Hemsl. (Ranunculaceae)

اسپرک

Isparak (Teh.); Asbarg, Aswarg, Zalil (other parts of Iran); Hishwarg (Bal.); flowers of yellow larkspur.

Field 36.

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This plant is a gigantic shrub, remarkable for its legumes, which are several feet long. It has been called Burmese tamarind. The seeds are more or less heart-shaped, flattened, about 2 inches in diameter, with a shining, brown surface. They are used by some hill tribes for washing the hair, as they contain saponin. Aitchison remarks that Kors-i-kamar seeds are exported from India to Iran and employed in medicine. In Tehran they are powdered and, mixed with yolk of egg, made into a plaster for pain in the back. [515]

Equisetum ramosissimum Desf. (Equisetaceae)

قنطریون

Qantaryūn (Teh.); the herb, horsetail.

W.H.M.M. 150859.

The light green stalks of the horsetail with their brittle structure and acute edges appear by some mistake to have been intended to represent the centaury plant (*Erythraea Centaurium* Pers., Gentianaceae). They could not replace the pleasantly bitter centaury herb. *Dianthus anatolicus* Boiss. is called Kanturiyan in Iran, where it is also used as a substitute for the centaury of the European flora. The centaury, like other plants of the gentian family, is a domestic remedy for a general tonic.

Eremurus Aucherianus Boiss. (Liliaceae)

سریش سفید

Sirish-i-safīd (Isf., Teh.); commercial names: chiresh, sarish, siris, shirias; roots of the giant asphodel.

Field 1, 2 (Isf.); 80A, 240.

The roots of one or more species of asphodel, including *Asphodelus ramosus* L., are found in commerce in Iran and Central Asia, and are trade products in Mosul and Leh, either dried entire or powdered (Sirish-i-narm). They are exported from the Balad Sinjar district in northwestern Iraq to Syria (G.). The roots, whitish, twisted, hard, light brown, swell and soften and partly dissolve in water, forming a thick mucilage. Water added to the powder forms a glue used for cementing leather, in binding books, and for other industrial purposes. The green part of the plant is eaten. [381] [262]

Erysimum repandum L. (Cruciferae)

تخم خاک شیر

Tukhm-i-khāk-i-shīr (Ham.); Khakshir-talkh (Isf.); Khakechi (Schl.); Khubah (Ar.); Kashir (Bal.); the seeds.

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as a plaster to sores and wounds. The drug contains resin 65, gum 20, and essential oil 10 to 20 per cent.

Ferula persica Willd. (Umbelliferae)

سکبینج

Sakbīnaj (Teh.); Saka-binaja (Ar.); Sek binedge (Schl.); Sagapenum gum.

Achundow; Ait.; Schl.; Laufer 366; Ph. Ind. 2: 161.

Field 163; K.B. 317; W.H.M.M. 150922.

[314]

Sagapenum is a fragrant gum-resin obtained from Laristan and Kerman. It is found in the market in tears or agglutinated into brownish yellow cakes with a persistent, alliaceous odor and acrid taste. It yields on distillation a volatile oil containing sulphur.

The drug has a local reputation as a plaster for rheumatism and lumbago.—Mixed with linseed oil it forms a salve for the relief of piles and pains in the back (H.F.).

Ferula Sumbul Hook. f. (Umbelliferae)

ریشه کلفس

Rīshah-i-kalafs, Sumbul, also the name for celery root (Teh.); musk or violet root.

Field 134.

This is a large, perennial plant of Samarkand. The root is thick and fusiform, light and spongy, transversely wrinkled, with corky, brown bark, and fibrous, whitish interior with resinous cells. The odor is strong and musk-like, and the taste bitter and aromatic. It is employed as a stimulant, nervine tonic, and antispasmodic, given in hysteria and nervous disorders.

Ficus Carica L. (Moraceae)

تین

Tin; common fig.

The edible fig grows wild in the mountain valleys of Kurdistan and in the foothills, and is also cultivated throughout Iraq as a fruit tree (G.).—The figs are usually sold strung on cords hung from the ceiling (H.F.).

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Foeniculum vulgare Mill. (Umbelliferae)

ریشه رازیانه

Rīshah-i-rāziyānah (Teh.); the root of fennel.

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Ait.; Post; Boiss. 1: 542; Ph. Ind. 1:155.

K.B. 319.

This is a shrubby plant of northern Iran, Afghanistan, the Caucasus, and Turkestan, 3 to 4 feet high, with numerous stems springing from the perennial rootstock. The underground rootstocks are collected and used as soap for washing the hair and clothes. The Irani drug is no doubt a substitute for the older Roman and Egyptian Struthium, the root of *G. Struthium* L. of southern Europe. The roots contain from 6 to 16 per cent saponin.

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Halimodendron argenteum Fisch. (Leguminosae)

Field 14, 31 (Iraq).

Halimodendron is a thorny shrub found in Iran, the Caucasus, and Central Asia. Fruits of this plant were collected without a local name, from Yezd-i-Khast between Isfahan and Shiraz. The thorns are used in native surgical operations. Inflated pods, 2 cm. long and oblique, are brown, and contain two or three seeds like chick peas.

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Helianthus annuus L. (Compositae)

افتاب گردن

Aftāb gardan (Teh.); Ward-ash-shams, Shams-wa-qamar (Iraq); Qunah baqan (Turk.); sunflower seeds.

Field 122 (Teh.), 72, 73 (Iraq).

Two kinds of sunflower seeds are represented in these collections: black, ovate-elongate, 12 by 6 mm.; and white, smooth, broader achenes, 12 by 7 mm. There is a good market for these seeds, which are used for human consumption and for bird food, and yield by expression an oil for cooking purposes. Many tons of the seeds are produced annually in the U.S.S.R.

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Helicteres Isora L. (Sterculiaceae)

بهمن پیچ

Bahman-i-pīch, Pachman-i-puh (Teh.); Kisht bar Kisht (Pers.); Pechak, Marorphali (Hind.); Avartin (Sans.); the Persian and Sanskrit names signify the furrows on a ploughed field; the spiral fruits.

Ibn Baitar; Achundow; Fl. Br. Ind. 1: 365; Ph. Ind. 1: 231.

Field 137; K.B. 320.

The East Indian screw tree occurs in dry forests throughout central and western India and in Ceylon, Java, and northern Australia. The spirally curved fruits are sold in all Indian bazaars and

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Ph. Ind. 2: 392; Pyman, Journ. Chem. Soc. 1919; Fl. Br. Ind. 3: 645.

W.H.M.M. 150793; K.B. 320.

This small, deciduous tree is found in the tropical Himalayas from the Chenab westward, and throughout the drier forests of India to Travancore and Malacca. Samples of the seed came from Hamadan and Tehran, showing that the Indian drug is well established in Iran. The seeds are narrowly linear-oblong, glabrous, and brown, about 12 mm. long. They have a bitter taste due to the presence of the alkaloid wrightine (conessine), which acts like emetine. The seeds are reputed to have tonic and aphrodisiac properties.

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Hordeum vulgare L. (Gramineae)

جو سفید جو سیاه

Jau, Jōyi safīd (white), Jōyi siyāh (black) (Iraq); Jao (Sind); Jū (Kurd.); Jav (Hind.); barley.

Field 59, 71, 275; 11, 32, 44, 46, 70 (Iraq).

Barley is the most widely cultivated grain and forage crop throughout Iraq. The variety *hexastichon*, or six-rowed barley, has been found in the earliest Egyptian monuments and is the variety most frequently grown in India and Iraq. Early sown barley provides the greater part of the winter grazing in the irrigated areas; horses and other animals are also fed on the grain. Local barleys yield well, but are generally unsuitable for malting. The collection includes specimens of white and black barley, the varieties *distichon*, *hexastichon*, and *erectum*, and the Alleidum barley of Iraq. Pearl barley is imported from Europe and is obtainable in most Eastern bazaars. Mason quotes a saying in Iran, "What has disease to do with men who live upon barley-bread and buttermilk?"

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Guest (p. 46) gives the following information concerning barley:

"*Hordeum* (Gramineae). Barley grass, Barley. Sha'ir, etc.

"*H. murinum* L., Wall Barley or Barley grass. Sha'irah, Shuwairib, Sha'ur, etc. Small tufted annual grass with a flattened inflorescence like a miniature barley. Widely distributed in fields, on channels and ditches, by waysides and in waste places. March–April. In maturity it is a fodder plant of rather low feeding value, though the young growth is nutritious. The seeds are barbed and the awns serrated; hence the mature plants are likely to injure the tender parts of stock.

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"*H. bulbosum* L. Abu Suwaif, Gizar Gia (Kurd.), etc. A tall perennial barley grass with a bulbous root. A common weed in cereal fields on the upper plains and in the valleys of Kurdistan, often projecting conspicuously above the ears of the crop. March–May. It is a useful fodder plant sometimes preserved for winter feeding. Children often eat the bulbous roots.

"*H. spontaneum* K. Koch. Tall grass similar to the above. Common on the rocky slopes of Jebel Sinjar and other hills. April–May.

"*H. sativum* Pers. (*H. vulgare* L.). Sha'ir, Arpā (Turk.), Jū (Kurd.). The most widely cultivated grain and forage crop throughout Iraq; with wheat, rice, and dates it forms the staple food of the majority of the inhabitants. Early-sown barley provides the greater part of the winter grazing in the irrigated areas; horses and other animals are also fed on the grain. The climate is unfavorable for the slow ripening which is necessary to produce good malting barley, since the summer comes on very suddenly, almost before the spring is over. Two-rowed barley (var. *distichon*) is generally known as Sha'ir Abū Sūwaif or Sha'ir Abū Sikkatain; six-rowed barley (var. *hexastichon*) as Sha'ir Sparqalān."

—In the collections of the Rustam Agricultural Experimental Farm at Hinaidi near Baghdad, Iraq, the following varieties of barley are represented:

(*a*) *H. sativum* dest. erect., *nigrum*. Sha'ir Abū Sūwaif. Rustam No. 127. Field 23A. Origin Al Mahmudiya, Iraq.

(*b*) *H. sativum* Pers. (*H. vulgare* L.) *albidum*. Rustam No. 128. Field 24A. Origin Biskra.

(*c*) *H sativum distichon*. Chilian barley. Rustam No. 160. Field 25A. Origin Australia.

(*d*) *H. hexastichon albidum*. Circlan barley. Rustam No. 217. Field 22A. Origin Iraq.

(*e*) *H. sativum albidum*. California barley. Rustam No. 150. Field 20A.

(*f*) *H. sativum albidum*. Sha'ir. Rustam No. 218. Field 21A. Origin Iraq. (H.F.)

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Hyoscyamus reticulatus L. (Solanaceae)

بزر بنج

Bazr-i-banj (Teh., Ham.); Kohi bang (Bal.); Banj barri (Iraq); Benj (Ar.); Bango (Port.); henbane seeds.

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This annual herb is indigenous to the region that extends from the Caucasus to northern India, and is frequently cultivated in India and Iraq as a winter crop. The seeds are used for human consumption and for feeding animals; as a green manure or forage crop it surpasses other vetches. It has for a long time been known that a form of paralysis named Lathyrism is believed to result when this pulse is eaten continuously for some length of time. Guest, however, states that there is no evidence that its harmful nature has ever been recorded in Iraq.

Lavandula dentata L. (Labiatae)

اسطوخودوس

Ustūkhūdūs (Teh.); Osthoukhodouce (Schl.); the Persian name is derived from the Greek; flower heads.

See paper on this drug by I. H. Burkill in the Journ. As. Soc. Bengal, N. S., V, No. 3, March, 1909, 67–71; Ph. Ind. 3: 93; Boiss. 4: 540.

Field 18; W.H.M.M. 150737; K.B. 824.

These are the flower heads of a species of lavender sold in Tehran and brought from Shiraz. They constitute an ancient drug used by the Greeks and referred to by Arabian and Persian physicians. The name has also been applied to *L. Stoechas* L., the Staechus of old works on materia medica. The flowering spikes have the odor of rosemary and camphor, and yield an essential oil containing dextro-camphor and dextro-fenchone. In the form of an infusion the drug is given for catarrh and malaria; it is also used for washing wounds and eruptions.

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Lawsonia alba Lam. (Lythraceae)

حنا برک

Hinnay-i-barg (Teh.); Hinna (Iraq); Rang-mehndi (Hind.); Camphire (Syr.); henna leaves.

Field 74, 188, 220; 19, 45 (Iraq); W.H.M.M. 150819, 150863.

The henna plant is cultivated throughout India on account of its leaves, which yield the henna dye, and as a garden hedge plant. They are sold in the shops in two forms: (1) the broken leaves, and (2) the leaves called "Rangh" reduced to fine powder and mixed with a small quantity of mustard oil. The principal value is as an article of the toilet, for staining the finger nails, hands, and feet a dull orange color, and for dyeing the hair bright red. The use of henna

1/2 [Chickling vetch (Lathyrus sativus) - - Analyst]

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Field 48, 66, 68 (Iraq); 105A.

The lentil is an excellent fodder or grazing plant, affording a most nutritious pulse. As an article of food it has been known from the most ancient times; specimens have been discovered in the tombs of Egypt dated 1500 B.C., and are shown in the Wellcome Historical Medical Museum. Lentils are used as food whole or split (when they are called in India "Dall"), and in the form of flour.—A specimen in the American School for Boys, Baghdad, is labeled "Adas mar, lentils ground and taken by women to facilitate parturition" (H.F.).

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مچه

Muchchah (Isf.); Bajindak (Afg., Hind.); Buski (Bal.); hoary cress.

K.B. 325.

The hoary cress is a weed of cultivation distributed westward to Europe. In Tabriz the young shoots are used as a salad or potherb under the name of "Khili-wili." The seeds, smaller than those of *L. sativum*, are oval and dark brown. Seven or eight seeds are given as a dose for flatulence.

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Lepidium sativum L. (Cruciferae)

تخم شاهی

Tukhm-i-shāhī (Teh.); Tukhm tartizak (Isf.); Halim (Hind.); Asalia (Bom.); Tara tezak (Afg.); cress seed.

Ait.; Schl.; Ph. Ind. 1: 120; Boiss. 1: 354.

Field 31, 448; W.H.M.M. 150717; K.B. 325.

Garden cress is a native of Iran, and is widely distributed as a cultivated plant eastward to Tibet. The seeds are exported as a drug from Iran to India, and westward to Europe. They are light brown or reddish brown, oblong, 3 by 1.2 mm., with a depression on the inner margin, and a white spot at one end, have a pungent, cress-like taste, and become coated with transparent mucilage when soaked in water. They are tonic, aphrodisiac, and diuretic.

Linum usitatissimum L. (Linaceae)

تخم بزرک

Tukhm-i-bazrak, Bazrak (Ham.); Basarak Katrin, "little seed of flax" (Pers.); Tukhm-i-katan (Ait.); Bazr ul Kattan (Achundow);

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This plant, allied to *Colchicum*, occurs in North Iran, Afghanistan, the juniper tracts of Baluchistan, and in the Punjab. Aitchison found this plant common all over the Badghis and Khorasan. The corms are collected as a medicine and exported from Meshed through Iran via the Persian Gulf to India. The drug is one of the forms of the ancient Hermodactyl. It is probably the Surinjan-i-shirin or sweet Surinjan, a medicine used by Mohammedans in India. The root from Hamadan is broken into pieces showing a white, starchy fracture with no perceptible taste or smell. The drug is said to have the same action as the bitter Surinjan (*Colchicum* spp.) as a remedy for rheumatism.

Mirabilis Jalapa L. (Nyctaginaceae)

تخم لال عباس

Tukhm-i-lāl'abbās (Teh.); Gul-i-abbasa (Pers.); fruits of the marvel of Peru.

W.H.M.M. 150895.

The marvel of Peru or four-o'clock is a plant of tropical America. It is named *Mirabilis*, or wonderful, on account of the variegated colors of the flowers, and *Jalapa*, as it was formerly supposed to be the true jalap plant. The fruits are oval or vase-shaped, 8 by 5 mm., dark reddish brown, five-ribbed, and papillate, containing a white, starchy seed. Little is known about its medicinal action, but the fruits have been said to be used in adulterating black pepper. [263]

Morus nigra L. (Moraceae)

شاه توت

The fruits: Tūt-i-kushk (Teh.).

The root: Rishah-shāh-tūt (Teh.).

The tree: Shāh-tūt, "royal mulberry" (Pers.).

Field 46A, 269, 402; K.B. 327.

The black or grafted mulberry is cultivated in Iran and Baluchistan, principally for its fruit; the white mulberry (*M. alba*), for sericulture. They both yield fruit which in season is sold in the bazaars and met with in nearly every household (Ait.). When carefully dried, the fruits are called Tut-i-dham, and supply a wholesome and nutritious article of diet during winter. [262] [231] [245]

The other drug of the mulberry tree from Tehran consists of the bark of the root, reddish colored externally, with strong, silky white liber cells. It is used for dysmenorrhea.

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children, for fevers and chest troubles (C.).—For this purpose the flowers are often mixed with *Adiantum Capillus-Veneris* L., jujube, violet flowers, oxtongue, and sugar (H.F.).

Ochrocarpus longifolius Benth. & Hook. (Guttiferae)

نور موش

Nūr-mūs, Normush (Ham.); Tambrā (red) nagkeshur (Pers.); the flower buds.

Fl. Br. Ind. 1: 270; Ph. Ind. 1: 172.

K.B. 328.

This tree, called cobra saffron, grows in the western part of the peninsula of India from Canara to the Concan. The flower buds come principally from Rajapur and the Deccan. The reddish brown, globular buds, like cloves, are astringent, and are used for dyeing silk. In Iran, where they seem recently to have been introduced, they are used as an aromatic tonic. [286]

Ocimum Basilicum L. (Labiatae)

تخم ریحان

Tukhm-i-raihān (Ham., Teh.); Ruhan (Kurd.); Takmeria (Bom.); Semen Basilici (Old Herbals); Alfabaca (Port.); sweet basil.

Ait.; Boiss. 4: 534; Fl. Br. Ind. 4; Ph. Ind. 3: 83.

Field 84A; W.H.M.M. 150830; K.B. 728.

The sweet, Roman, or garden basil is a native of India and Iran, and is distributed in Africa and Malaya. Raihan is the Arabic name for "the herb," and the plant is a potherb much used for its mint-like aroma. The "seeds," long known in medicine, are said to be the Badranj of Avicenna. Large quantities are imported into India from Iran. The nutlets or "seeds" are blackish, oblong, 2 to 2.5 mm. long, broad, punctulate, slightly arched, with a white umbilicus at the narrow end. When placed in water, they immediately become coated with a semi-opaque mucilage. Schlimmer remarks that the seeds are eaten with bread and cheese.—The seeds are prescribed as a cold infusion for influenza (H.F.). [262]

Ocimum canum Sims (Labiatae)

تخم شربتی

Tukhm-i-sharbatī (Ham., Teh.); Tukhm-chirbati, Reyhane Kouhi, Badroudge ibieze (Schl.); white basil.

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Field 194; W.H.M.M. 150774; K.B. 328.

Schlimmer remarks that Shiraz supplies Iran with these seeds and adds that they are an indispensable ingredient in iced sherbet (sorbets à la glace). The seeds, or nutlets, are black, punctulate, oblong or ellipsoid, 2 by 1 mm., arched on one side, with a bifurcate line on the other. They are smaller than those of the sweet basil, with a less prominent, white umbilicus, but, like them, they become coated with opalescent mucilage when placed in water. The seeds are given locally for lung and chest complaints and as a heart tonic.

Olea europea L. (Oleaceae)

زیتون

Zaitūn; olive.

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Cultivated for its fruits and for the extraction of oil, the olive tree provides an important article of diet and medicinal remedy.—Leaves are sometimes prepared as a decoction for coughs (H.F.).

Onosma echioides L. (Boraginaceae)

ریشه هوه چوبه

Rīshah havah-i-chūbah (Ham.); Havah-i-chūbah (Teh.); Ratan-jot (Hind.); Indian alkanet root.

Achundow; Schl.; Boiss. 4: 181; Fl. Br. Ind. 4: 178; I.H.B.; Ph. Ind. 2: 54.

Field 165; W.H.M.M. 150718; K.B. 329.

This plant, growing in Afghanistan and Siberia, affords a root which is substituted for European alkanet (*Anchusa tinctoria*), from Al-kanna of the Arabs, employed as a dye and medicine in early times. The root of the allied species, *O. Hookeri* Clarke, is called Ranj-i-badshah, "King's dye." The tapering root has a purplish red color, and the cortical portion easily separates in flakes. It imparts its color to oils and spirits, and is used in coloring medicinal preparations. In Iran the root is powdered and given to horses for coughs and as a condition powder.

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Orchis latifolia L. (Orchidaceae)

سعلب

Sa'lab (Teh.); Salab-misri (Ar.); Punjah-i-salaba; Oriental salep.

Field 229; W.H.M.M. 150908.

Palmate or hand-shaped tubers of orchids are considered the best for medicinal purposes. They are deprived of their epidermis by

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scalding in water and then dried. They are hard, horny, whitish, opaque or translucent, branching tubers, mucilaginous when placed in water. A gruel made of these roots is esteemed as a nervine tonic, demulcent, and nutritive.—As an infusion it is given to relieve hoarseness (H.F.).

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Oryza sativa L. (Gramineae)

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برنج مدری

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Birinj-i-sadri, Berij sadri Gilan (Teh.); Timan (Iraq); Ruzz (Ar.); Shilib, Pirinj (Turk.); Chaltuk (Kurd.); rice grain.

262•

Field 58, 72; 15, 18, 20, 34 (Iraq).

"Rice is cultivated as a summer crop over immense areas, especially in the southern marshes, also in the valleys of Kurdistan and on the flow canals of certain regions in lower Iraq" (G.). There are three main types of the crop represented in the above specimens from Iraq: (1) Harfi or early-sown, (2) Affi or late-sown, and (3) Shittāl or transplanted.

Timan is the hulled rice of Iraq. The two samples from Tehran are of fine, white, table rice.

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Panicum miliaceum L. (Gramineae)

ارزن

Arzan (Pers.); Dukhn (Iraq); China (Hind., Sans.); millet grain.

Field 57, 106A; 22, 80 (Iraq).

Common millet is cultivated as a summer crop in Iraq, especially along the Shatt-al-Hai. The grain can be cooked and eaten whole or made into bread. It is commonly used in the form of porridge. The green plant is an excellent fodder for animals.—The seeds provide feed for chickens (H.F.).

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Papaver somniferum L. (Papaveraceae)

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Kaṿl-a-kūknār, Pōst-a-kūknār (Pers., Afg.); poppy heads.

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تخم خشخاش

Tukhm-i-khash khāsh; Tukhm-i-shaga'ig (Ham.); Kishkash (Ar.); poppy seeds.

Ait.; Post; Ph. Ind. 1: 73.

Field 48, 64, 81A, 82A, 185; W.H.M.M. 150835, 150911; K.B. 329.

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Opium is known locally as Afyun, but the cultivation of the opium poppy is prohibited in Iraq. The capsules, some of them scarified, are sold in the bazaars, but their narcotic effects are less powerful and more uncertain than those of opium. The seeds contain 50 per cent of drying oil, which is sometimes called Roghan-i-khash khāsh. The seeds, often erroneously supposed to be poisonous because they are contained in the opium-yielding capsule, are wholesome and nutritious, and are eaten chiefly in sweetmeats.—The seeds are given to relieve epistaxis; an oil derived from them is employed in making soap. The fruits mixed with *Malva sylvestris* L. var. *mauritiana* Boiss. and *Linum usitatissimum* L. form a paste for application to boils (H.F.).

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Parmelia kamtschdalis Esch. A lichen. See *Roccella Montagnei* Bél.

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Peganum Harmala L. (Rutaceae)

تخم اسفند

Tukhm-i-isfand, Sipand (Teh.); Harmal, Harmal rutbah (Ar., Iraq); Aspand (Kurd.); Uzarih (Turk.); the Syrian rue.

Achundow; Schl.; Post; Boiss. 1: 917; Fl. Br. Ind. 1: 486; Ph. Ind. 1: 75; Weisner 44.

Field 46; 4, 26, 27, 119 (Iraq); W.H.M.M. 150850; K.B. 329.

The mountain rue is a plant of Iran, Arabia, Syria, North Africa, and southern Europe. The plant and seeds were used medicinally by the Greeks and Romans, and were noted in European herbals in the 17th century. The seeds are exported from Iran into India, where the plant was originally introduced by Mohammedans. The seeds are dull gray, 2 mm. long, angular, having a bitter taste, and, when crushed, a heavy, narcotic odor. The active principle resides in the alkaloids, harmaline and harmine. The custom prevails in Iran and Iraq of sprinkling the seeds on burning coals at marriages to avert the malignant influence of the Evil Eye; the smoke from the burning seeds is said to drive away epidemics. The seeds are reputed to be an alterative and purifying medicine, and are supposed to stimulate the sexual system.

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Peucedanum graveolens Benth. & Hook. (*Anethum graveolens* L.) (Umbelliferae)

تخم شوید

Tukhm-i-shivīd (Teh.); Shivit (Isf.); Shabbit (Ar.); Sawa, Soyah (Hind.); Habbat Halwah (Iraq); Anitum (Yunani); dill.

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Field 69, 409; W.H.M.M. 150847; K.B. 303. I-I

The well-known dill is a tall, annual or biennial herb, with a strong, aromatic odor, finely dissected leaves, and umbels of yellow flowers. Dill fruits are sold in the bazaars and used as a condiment and carminative. On distillation they yield an oil used in medicine for the preparation of dill water. The plant is often confused with fennel and the fruit with caraway seed; hence the name Karawyah, sometimes used. In Iran dill serves as a potherb; the leaves are cooked with rice as a condiment to restore lost appetite.

Phaseolus radiatus L. (Leguminosae)

ماش

Māsh (Iraq, Pers.); Urd or Urid (Ind.); Masha (Sans.); the seeds.

Field 76A, 274; 5, 60 (Iraq).

Mash is cultivated as a summer pulse crop, sometimes mixed with maize or sorghum. The green pods are eaten as a vegetable, and the plant is used as fodder or green manure. The small, green, oblong beans are cooked and eaten, made into biscuits, cakes, and sweetmeats. In Afghanistan this pulse is so much esteemed that it is called Mash-i-maha, "the king of peas."

Phaseolus vulgaris L. (Leguminosae)

فاصولیه

Fāsūliyah (Iraq); Lubia, Lubia-kermiz (red) (Teh.); Rāzmah (Kash.); French bean; the seeds.

Field 69, 70, 77A, 75 (Iraq).

The French or kidney bean is grown as a vegetable or a pulse in kitchen gardens. The pods can be eaten green and the ripe seeds dried as haricot beans, or white soup beans.

The beans are ovate, oblong, 12 to 14 by 6 to 8 mm., white, red, or brown, splashed with black streaks, the hilum on the inner side.

Phoenix dactylifera L. (Palmae)

نخل تمر

Tamr (ripe fruit), Rutab (half ripe), Khalal (unripe), Nakhli (male tree), Khurmā; the date palm, date.

Date gardens are found on both sides of the Euphrates from An Nasiriya to Basra. From Nahr Umr down the Shatt-al-Arab to Fao is the largest date-growing district in the world. There are

35: Hooper and Field 5-5 (1834) 1937 MAI Iran MAI
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date gardens on both banks which vary in width from a few hundred yards to five miles. The date is the most important crop in Iraq (G.).

The best variety of Iraq dates is grown in the Suq district. The finest fruit is produced when the tree is between twelve and forty years old. Over a hundred varieties are known, but in Iraq they may be divided into two classes: (*a*) those used chiefly for trade; (*b*) those used for local consumption.

(*a*)	(*b*)
1. Halawi	1. Mishi
2. Khadrawi	2. Gentar
3. Sa'ir	3. Hasawi
4. Dairi	4. Khasib
5. Za'adi	5. Lihur
6. Digal	6. Barhi

Of these 60 per cent are of the Sa'ir variety. The Halawi are popular in America, the Khadrawi sell in Europe while India and Iran are content with the Sa'ir varieties. The numerous uses of the date palm are proverbial.—The fruit yields a syrup and is used in making the local spirit, 'araq (H.F.).

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Phyllanthus Emblica L. (Euphorbiaceae)

آمله سفته

Amulah-i-suftah (Teh.); Amulah-mugashshar (Isf.); Amlaj (Ar.); Aola amla (Hind.); Kurk amla = dried fruit, Amla morabba = preserved fruit, in Turkestan; emblic myrobalans.

Field 16 (Isf.); W.H.M.M. 150871.

This tree grows throughout tropical India, and is valued for its fruits which, when dried, constitute the emblic myrobalans of commerce. As met with in the shops, the drug occurs in broken sections of a fruit, smaller than a walnut, with dried pulp and hard, woody endocarp. The pulp is very acid and contains much tannin. The fruit is astringent, stomachic, and refrigerant; mixed with grape juice and honey it is a favorite drink for fever and diarrhea.

Physalis Alkekengi L. (Solanaceae)

کاکنج

Kākanj (Isf., Teh.); Gul-i-kākanj; Alkikenji (Ar.); clammy winter cherry.

Achundow; Boiss. 4: 287; Post; Ait.; Schl.; Ph. Pers.; Ph. Ind. 2: 560.

Field 12 (Isf.), 162; W.H.M.M. 150721; K.B. 330.

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crushed, a spicy odor, and possess a strong, spicy, and bitter taste. They have a stimulant and antiseptic action on the mucous membrane of the genito-urinary organs, and are also a diuretic.

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Pistacia integerrima Stew. (Anacardiaceae)

چهار تخوش

Chahār tankhūsh (Teh.); Chatlangueh (Ham.); Kharshnai (Kash.); fruits.

W.H.M.M. 150839; K.B. 331.

This is the northwestern Himalayan form of the turpentine tree, called also the false or donkey mastich. The small drupes are broader than long, 5 by 6 mm., glabrous, rugose, gray with a bony stone. They have a marked terebinthinate odor, and are used locally to impart flavor to milk.

جفت

Field 201; W.H.M.M. 150706.

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Under the name of Jift or Juft, the broken shells of the galls of the turpentine tree are sold in Tehran. Being very astringent, they are used for tanning; mixed with lime, they remove hair from skins.

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Pistacia Khinjuk Stocks, (Anacardiaceae)

حب الغار

Habbu'l ghār (Isf.); Habul-khazra (Teh.); Hebbul-beneh (Ar.); the fruits.

Field 449; 116 (Iraq); K.B. 331.

سبز قلنج

Subz-i-gulanj (Teh.); Buzghanj (Ham., Isf.); Gul-i-pisteh (Bom.); Afs-el-batum (Tri.); the galls.

Ait.; Boiss. 2: 6; I.H.B.; Ph. Ind. 1: 377.

Field 422; W.H.M.M. 150878; K.B. 331.

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This tree is common in Iran, Baluchistan, and Afghanistan, and has been described under different species names. The tree yields a resin-like material, and the nuts, which are eaten, afford a sweet oil; the leaves and galls are employed for tanning. The small, seed-like fruits are oval in shape, 6 mm. long, reddish brown in color, with an acid taste and terebinthinate odor. The fruits are eaten and are said to be good for debility.—Prepared like tea, they relieve stomach pains (H.F.).

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The galls are formed by *Pemphigus utricularius* Pass. (figured in "Les Zoöcécidies des Plantes d'Afrique, d'Asie et d'Océanie," by C. Houard, 1923, figs. 1010–1012, p. 471, under *P. atlantica* No. 1731). They contain about 40 per cent of gallotannic acid, are ovoid, larger than peas, somewhat fig-shaped, pink in color, turning gray; the wall is thin, brittle, and rugose on the outside, smooth within and translucent. The taste is astringent and slightly terebinthinate. In Persian and Arabic works on medicine the galls are described as cold, dry, and astringent.—Mixed with Indian spikenard they are administered to relieve stomach pains (H.F.). 824* 278*

Pistacia Terebinthus L. (Anacardiaceae)

مقز مفید

Sagiz-i-safid (Teh.); Sages (Stapf); Zunghari, Sukhur; the oleo-resin and leaves.

Field 129; W.H.M.M. 150894.

The turpentine tree grows freely near Banni in the hills of Sherag. Its oleo-resin is a thick, tenacious, white, opaque mass, gradually taking the shape of the bottle in which it is placed; it softens on warming and has a pleasant terebinthinate odor. It is used in Tehran as a chewing gum, and is similar to the Chian turpentine which was recommended about fifty years ago as a remedy for cancer. The leaves are astringent and are used for dyeing. [314] [386]

Pistacia vera L. (Anacardiaceae) 824* 278* 262.

پسته

Pistah (Teh.); pistachio nuts in shells.

Field 265; 49A, 50A, 51A; 124 (Iraq).

پوست پسته

Pust-i-pistah (Teh.); husks of the fruits.

Field 186.

The fruit of the pistachio nut is the size of an olive; its husk is reddish and astringent, its odor terebinthinate. Within the fruit is a woody shell or nut, brownish white in color, with hard, horny, and polished texture and ovoid shape. The kernel or almond is pale green, and covered with a thin, brittle, brown skin, easily removed by scratching. The taste is sweet, oily, and balsamic. The outer husk of the fruit (Pust-i-pistah) is used as an infusion for dysentery and is imported into Bombay from Iran as a dyeing and tanning agent. [376] [281]

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The fruits of various species of *Pistacia* have been used as food. Laufer in "Sino-Iranica" remarks that these indigenous trees from ancient times have occupied a prominent place in the life of the Persians. The youth of Persia were taught to subsist on terebinths, and "terebinth eaters" became a nickname. The seeds of the pistachio tree are probably the terebinths referred to, but other species and varieties also afford edible fruits. In Baluchistan the fruits of the Khinjuk tree, called "Shahna," are dried and made into flour and eaten by the poor.

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Plantago major L. (Plantaginaceae)

بارهنگ

Bārhang (Teh.); Tukhm-i-bārhang (Ham.); Bizr dinbil (Iraq); Bar-i-tang (Bal.); seeds of greater plantain.

Achundow; Ait.; Schl.; Boiss. 4: 878; Post 668; Ph. Ind. 3: 128; I.H.B.; Gilliat-Smith.

Field 6; W.H.M.M. 150913; K.B. 331.

Greater plantain is widely distributed in temperate countries, and the seeds of this and other species are largely employed in medicine in the East. In Tabriz this plant is called in Turki Bizousha dishi, the female kind; *P. lanceolata* L. is distinguished as Bizousha erkek, the male kind. The seeds are small, oval, 1 mm. long, smooth, and brown. They throw off a transparent, mucilaginous coating when placed in water, on account of which the seeds have a reputation in treatment for affections of the bowels and as a remedy for dysentery. The colloquial name for the seeds in Iraq means "for making poultices for boils." The seeds of *P. Loefflingii* L. are called in Tabriz Karni Yarikh, meaning "healing of the stomach" (Gilliat-Smith).

Plantago ovata Forsk. (Plantaginaceae)

اسفرزه

Isparzah (Teh.); Asbaghul, Ispaghul (Pers.); Lesan ul Lamal (Ar.); Psylli semina (Ph. Pers.); Khar-danick (Bal.); spogul seeds.

Achundow; Schl.; Boiss. 4: 855; I.H.B.; Ph. Ind. 3: 126; B.P. 1914.

Field 7; W.H.M.M. 150707; K.B. 332.

This species of plantain is a native of Iran, Baluchistan, and northern India. Stocks observed that it was grown especially in Sind for its mucilaginous seeds, which from the time of Dioscorides

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This agaric occurs on the oak and larch, and in sizes as large as a fist or a child's head; it is light, spongy, and friable, and is not easily powdered. The use of this fungus in medicine is of very ancient date. Avicenna insists upon the great efficacy of agaric as an alexipharmic. Mohammedan physicians closely follow the Greeks in considering that it removes all kinds of visceral obstructions and expels diseased humors. It is also a Chinese drug. The light, white, spongy interior is made into touchwood, spunk, or tinder, and was formerly used to absorb blood and secretions from wounds, etc.; hence the old name Fungus or Boletus Chirurgorum given to the plant.

[B74]

Prosopis Stephaniana Kunth (Leguminosae)

خرنوبان

Kharnūbān, Kornub (Isf.); Shok (Ar.); Kunbut (Syr.); Chughak: "humpbacked, bent," applied to the contorted pods, Tukhm-i-jinjak (Ait.); the pods.

Field 403.

This is a loose, straggling, thorny shrub of the Caucasus, Syria, Iran, and northern India. The pods are brown or copper-colored, 4 by 1.5 cm., galled, swollen, and contorted, containing several oval, brown seeds separated by soft, spongy dissepiments. The pods are eaten by sheep, but the seeds pass through undamaged and germinate readily at the coming of the winter rains (G.). The pods and roots of the plant are regarded as astringent and are given for dysentery.

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Prunus Amygdalus Stokes var. amara Baill. (Rosaceae)

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بادام تلخ

Bādām-i-talkh (Teh.); bitter almonds.

Field 52A, 171.

The bitter almond tree, like the sweet, is a native probably of Iran and Asia Minor, and is indistinguishable in botanical characters. In form and appearance bitter almonds closely resemble Valencia almonds, but are usually smaller. They are employed in confectionery and for flavoring, but as the hydrocyanic acid yielded by them varies in quantity, they should be used with caution.—An ointment made of bitter almonds is applied to furuncles (H.F.).

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Prunus Armeniaca L. (Rosaceae)

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زرد آلو

The fruit: Zard ālū (Pers.); Mishmish (Iraq); Khūbani, with stones removed (Hind.); dried apricot.

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The seeds: Hasta-i-zard ālū.

Field 30, 39 (Iraq); 108A.

The home of this tree is in the Caucasus region. Dried apricots are called Pating in Afghanistan, and Chuli by the Botes. Sheets of compressed apricot pulp are sometimes sold in the market as Qamr-ad-din. In this form the dried apricot preserves its flavor for an indefinite period; it can be used as required after soaking in water, when it swells into a nutritive paste like jam. This substance was one of the rations issued to Turkish soldiers during the War (G.). Apricot kernels, called Stigu in Afghanistan, are used as almonds.

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Prunus Cerasus L. (Rosaceae)

هسته آلبالو

Hastah-i-ālbālū (Teh.); Karaz (Ar.); Kerasza (Hind.); cherry stones.

دم آلبالو

Dam-i-ālbālū (Teh.); cherry stalks or peduncles.

Field 144; W.H.M.M. 150810, 150860.

The sour or bitter cherry is a tree of western Asia and eastern Europe. The fruits are light brown, resembling those of the common cherry. The seeds contain kernels having the odor of bitter almonds, are nutritive and tonic and are used in confections. The cherry tree and other plum trees in Iran yield a useful gum called Sumgh alucha.—Cherry stones mixed with barley awns, and cherry stems, are given as an infusion for gonorrhea (H.F.).

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Prunus domestica L. var. **Juliana** (Rosaceae)

آلوچه

Alūchah (Teh.); Anjar (Iraq); Halu zhgarh (Kurd.); Alucha (Hind.); prunes.

Field 268, 95A, 104A.

The dried plums are black, wrinkled, ovate, 20 mm. long, with a sweet, pleasantly acid pulp; the seed is 14 by 12 mm., the kernel has an odor of bitter almonds. On account of their acidity they are preferred for cooking, and are used for cleaning metal.

Prunus institia L. var. **bokharensis** (Rosaceae)

آلو

Alū, Alū-bokhara (Teh.); Bokhara plum.

Field 271.

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The fruit is globular, sweetish, and acidulous, surface compressed and wrinkled, color reddish or brown, with an odor like that of dates. Inside, the fruit is an almond-like nut in a hard shell, containing a kernel resembling sweet almonds. These plums may be used in place of prunes in the preparation of confection of senna.

Prunus Mahaleb L. (Rosaceae)

حب المعلب

Habbu'l-ma'lab (Teh.); Hab-ul-mahaliba (Ar.); Paiwand-e-maryam (Pers.); perfumed cherry tree fruits.

Field 103 (Iraq); W.H.M.M. 150862.

This small tree occurs in Central Asia and Europe. The drug is found in the bazaars in two forms, the dried fruits and the kernels. The fruits are drupes, brown and oval, 9 by 6 mm., with a wrinkled skin, covering a fragile shell and the kernel. The kernels are light brown in color, ovate, 6 by 4 mm., with the taste of bitter almonds. They are used by Arabian physicians as a stomachic and for general debility.

Pterocarpus santalinus L. (Leguminosae)

صندل سرخ

Sandal-i-surkh, Rātiyanah (Teh.); Lal-chandan (Hind.); Ratanjali (Guz.); red sanders, red sandalwood.

Field 193, 232.

This wood is the Rakta chandana of Sanskrit writers. It comes from southern India, where the felling of the trees is under government control, and yields a considerable revenue. Hindus and Mohammedans use this wood combined with white sandalwood in bathing and religious services. The use of the red wood in powder for treating bloody fluxes must be based on the "Doctrine of Signatures." The drug called Rātiyanah in Tehran, a remedy for dysentery, appears to consist of chips of this wood. Red sandalwood is well known in Europe as an ingredient in French polish.

Punica Granatum L. (Lythraceae)

گلنار فارسی

Gulnār-i-farsī, Gul-i-anār (Teh.); Nar (Turk.); Gul nare-farci (Schl.); Flores Punicae granati (Ph. Pers.); pomegranate flowers.

Achundow; Ait.; Post; I.H.B.; Fl. Br. Ind. 2: 581; Ph. Ind. 2: 45; Boiss. 2: 736.

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Pharmacog.; Connold's British Oak Galls; Houard 375; Ait.; Ph. Ind. 3: 360.

K.B. 334.

These galls are produced by the insect *Andricus lucidus* Hartig. var. *orientalis* Trotter (illustrated in Connold's "British Oak Galls"). This cynipid makes galls on various species of oak. The bazaar specimens are probably brought from Asia Minor; they have long spines which are usually broken off in the commercial samples. They are used by tanners and are sold also as an astringent medicine. This drug is given locally as a febrifuge (C.).

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Quercus Vallonea Kotschy (Fagaceae)

كوزى علفى

Gueze elefi, Pune (Teh.); oak manna.

K.B. 334.

Under these names is supplied a confection or cake of sugary substance, green with the presence of broken leaves. It is a form of Tar-anjubin, "green honey," or Gaz-anjabin, "tamarisk honey." Layard referred to this substance in his "Early Adventures in Persia," I, p. 349: "The mountainous country beyond Fellaut is thickly wooded with the 'beloot' or oak. These trees are chiefly valuable for the white substance called by the Bakhtyaris 'gaz' or 'gazu,' a kind of manna. It is an article of export to all parts of Persia, and is sold everywhere in the bazaars, and employed in the manufacture of a sweetmeat called 'Gazenjubeen,' which is much relished and considered very wholesome. When boiled with the leaves and allowed to harden it forms a kind of greenish cake, not disagreeable to the taste, but, prepared for the use of the ladies of the enderun and to be offered to guests, it is carefully skimmed and separated, when it becomes a white paste of very delicate flavor."

Oak manna, manna quercina, Gueza-elefi of Schlimmer, has also been obtained from the leaves and fruits of *Q. mannifera* Lindl. of Kurdistan, *Q. persica* Jaub. & Spach, and *Q. tauricola* Klotzsch. Saccharose, glucose, fructose, and mucilage have been separated from these secretions, but no mannite.

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Quisqualis indica L. (Combretaceae)

Rangan-ki-bel (Hind.); Liane vermifuge (Fr.); fruits of the Rangoon creeper.

Field 82 (Iraq).

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The Rangoon creeper is cultivated as an ornamental flowering shrub in most parts of India. The fruits are oval or oblong, pointed at either end, and sharply pentagonal. The pericarp is thin, woody, fragile, of a mahogany color, enclosing an oily seed. The medicinal use of the creeper originated in Mauritius and the Moluccas. The seeds are valued as an anthelmintic; four or five seeds bruised and mixed with honey are administered as a dose for expelling lumbrici.

Raphanus sativus L. (Cruciferae)

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طربچه

Tukhm-i-turubchah (Teh.); Turb (Pers.); Bazr-el-fujl (Ar.); Tur (Kurd.); Mula, Muro (Hind.); radish seeds.

Field 37; W.H.M.M. 150921.

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The well-known radish is cultivated as a vegetable throughout the country. Its seeds, sold in the bazaars, are oblong, 3 to 4 by 2 mm., light reddish brown, with the testa minutely reticulated. They have the pungent taste of mustard. The seeds are diuretic, laxative, and lithontriptic.

Rheum palmatum L. (Polygonaceae)

ریوند چینی

Rivand-i-chini (Isf., Teh.); rhubarb root.

Field 7 (Isf.); 1, 206.

The appearance of sticks of Chinese rhubarb in the bazaars of Iran indicates the favor in which this medicine is held. It is aperient, stomachic, tonic, and slightly astringent, and promotes the action of the liver without any catharsis.—In Tehran it is used as a paste for syphilitic ulcers (H.F.).

Rheum Ribes L. (Polygonaceae)

گل لیواس

Gul-i-livās, Tukhm-i-livās (Ham., Teh.); Livās, the Persian and Arabic name of the plant; Riwas (Punj.); rhubarb fruits.

Barg-i-livās (Isf.); rhubarb leaves.

Boiss. 4: 1003; Ph. Ind. 3: 153.

Field 22, 400; W.H.M.M. 150885; K.B. 335.

The edible rhubarb is indigenous throughout the moister localities at 3,000 feet and upward. It occurs in great expanses on a northern exposure on the higher hills of Khurasan, marking the country characteristically in the autumn with the brilliancy of its almost

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—Taken with a little sugar and cold water it is a remedy for nausea, or is given in hot water for stomach pains; it is said to be harmless, even for children (H.F.).

Smilax China L., and **S. glabra** Roxb. (Liliaceae)

چوب چین

Chūb Chīnī (Ind. bazaars); Tu fu ling (Chin.); Raiz de China (Port.); Tuber Chinae; China root, Chinese sarsaparilla.

Schl.; Laufer 556; Colloquios; Ph. Ind. 3: 500.

W.H.M.M. 150773; K.B. 338.

This root was once a famous remedy for the treatment of Morbus americanus (syphilis), and was first introduced into Europe by the returning sailors of Columbus, and into India by the sailors of Vasco da Gama. It is mentioned by Indian writers of the 16th century. Garcia da Orta traced the source of the drug to China and records a cure made in 1535. It was soon afterward introduced into Iran by the Portuguese. Saponin was found in the root by Kobert in 1911, but its therapeutical action is not considered very marked.

Solanum nigrum L. (Solanaceae)

تاجریزی

Tāj-i-rīzī (Teh.); Inab-ath-thalab, "fox's grapes"; Inab-ed-dib (Ar.); Karezgi (Bal.); black nightshade, wonderberry.

Achundow; Boiss. 4: 284; Ph. Ind. 2: 550; I.H.B.

Field 130A, 414; W.H.M.M. 150722; K.B. 339.

This species of *Solanum* is a common weed in Iran, where the leaves are eaten as spinach, and the small, black fruits with yellow seeds are medicinal. The berries are eaten by the country people (G.). The Bote women employ the fruit as a cosmetic; they stick the fresh seeds on their cheeks to remove freckles and improve the complexion.

—Mixed with violet flowers, *Nymphaea alba* L., jujube, sebestan, and sugar, the fruits of *S. nigrum* are prepared like tea to soften the feces before giving a purgative, especially in typhoid fever (H.F.).

The fruits of bittersweet (*S. Dulcamara* L.), under the name of Sag-anjar, "dog's grapes," are among the drugs exported to India. They are considered laxative and are employed in chronic enlargement of the liver.

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Solanum xanthocarpum Schrad. & Wendl. and **S. Melongena** L. (Solanaceae) 824* 278*

تخم باد نجان

Tukhm-i-bādanjān (Teh.); seeds of the wild eggplant.

Field 261.

These plants occur throughout India. The stem and leaves are armed with strong prickles; the flowers are in racemes; and the berries are spherical, smooth, and marked with variegated, green and yellow stripes. The seeds are reniform, 2 mm. in diameter, compressed, and light brown in color. They are expectorant in asthma and catarrh.

Sorghum vulgare Pers. and **Andropogon Sorghum** Brot. (Gramineae) 824* 262 243

دهوره

Dhurah, Idhrah baidha (Ar.); Dari, Gowar (Hind.); Baryadh dari (Turk.); Zuratspi (Kurd.); great millet.

Field 111 (Iraq).

Giant millet is cultivated extensively as an irrigated summer cereal crop in the riverain areas between Basra and Mosul. During the past few years there has been an annual export of grain from Iraq amounting to between 30,000 and 50,000 tons. The grain is well liked by the people as a food (G.).

Spinacia oleracea L. (Chenopodiaceae) 824* 278* 262

تخم اسپاج

Tukhm-i-ispanāj (Teh.); IspināKh (Iraq); Sag Palak (Hind.); spinach seeds.

Field 45; W.H.M.M. 150912.

Spinach is cultivated in kitchen gardens in Iraq and Iran for its large, fleshy leaves which are eaten as a vegetable. It is sometimes confused with spinach beet (*Beta vulgaris* var.), which is much used as a substitute for spinach. The fruits are in green clusters, triangular, each angle terminating in two or more spines, the surface rugose and wrinkled. The fruits contain mucilage and alkaline nitrates, and are demulcent and diuretic, employed for fever and inflammation of the bowels.

The seeds of *Chenopodium capitatum* Aschers. are also sold under the above vernacular names.

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are occasionally used for poultices and in curries. The seeds are mucilaginous and have been known since antiquity for their medicinal properties, which are stomachic and cordial.—As an infusion they are given for menorrhagia (H.F.).

Triticum vulgare Vill. (Gramineae)

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گندم سفید

Gandum-i-safid, Gandum-ābī (Teh.); Kanim (Kurd.); Gehun (Hind.); Godumai (Tam.); wheat grains.

Nishāstah (Teh.); wheat starch.

Field 160, 278; 9, 26, 27, 35, 40, 42, 49, 56 (Iraq); 57A, 58A, 59A, 60A, 61A, 62A.

Wheat is one of the principal winter crops grown in cultivated areas throughout the country. Herodotus (III, 22) mentions only wheat as the staple food of the Persians at the time of Cambyses. Modern Irani primitive physicians use wheat starch as a dusting powder to allay the pain of burns and inflammation.

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Guest (p. 102) records the following information: "*Triticum* (Gramineae). Wheat. Hintah, Bughdāi (Turk.), Ganim (Kurd.). One of the two principal winter crops grown extensively in the cultivated areas throughout the country; the other is barley. There are several indigenous spp. and many hundreds of local varieties. Wheat is grown on irrigation in the riverain areas of Lower Iraq and, more extensively, on rain in the 'daim' areas of the upper plains; it is also grown in the valleys of Kurdistan (up to alt. about 2,000 m.). There is in normal years a considerable export of grain from Iraq, denoting a surplus above the requirements of the inhabitants. Formerly, the grain had a bad name in the trade owing to the dirt and other impurities which it contained; it was classed as 'Persian' and fetched a poor price in the world markets. Of recent years a great improvement has taken place in the cleanliness and quality of the grain exported from this country and it is confidently hoped to establish a name for Iraqi wheat. To this end legislation has recently been introduced to encourage the propagation of 'Ajībah wheat (one of the Punjab wheats), which was issued by the Department of Agriculture a few years ago after trials had proved it to be superior to any other local or imported variety.

"Bread Wheat, *T. vulgare* Vill. Almost the only kind of wheat grown on irrigation in the riverain areas of Lower Iraq. In certain years it suffers badly from rust disease which takes a heavy toll of

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preserved through being burnt, are difficult to identify with regard to their species. A summary of this discussion has been published by Henry Field, "Ancient Wheat and Barley from Kish, Mesopotamia," *Amer. Anthr.*, 34, No. 2, pp. 303–309. For further information on this subject the reader is referred to various publications by Nikolai Vavilov, Institute of Plant Industry, Leningrad, U.S.S.R.

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Tulipa montana Lindl. (Liliaceae)

فريونه

Fraiyōnah (Iraq); Lāla (Afg.); Govarikh, Wodak (Bal.); bulbs.

Field 54.

The bulbs of this tulip of Iran, Baluchistan, and Afghanistan have brown, coppery skins. They are sold in the Mosul market as food (G.). The bulbs are eaten also in Baluchistan, where the leaves are a fodder for goats.

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Uncaria Gambier Roxb. (Rubiaceae)

كات كلابى

Kāt-i-gulābī (Teh.); Chinai-katha (Bom.); extract, pale catechu.

Field 208.

This is a specimen of the pale catechu of commerce obtained from Singapore. In the form of cubes, 1 inch across, it is prepared from the leaves and stalks of the plant grown in the Malay States. It is very astringent, as it contains both catechin and tannin. In Tehran it is prescribed for coughs.

Veratrum album L. (Liliaceae)

كندش

Kundush (Ham., Teh.); Kondochi (Schl.); hellebore root.

Boiss. 5: 171.

Field 221; K.B. 343.

White hellebore is a plant of Europe, Central Asia, and Japan. The root is mentioned as a drug in the herbals of Hippocrates and Galen. The rhizome is dark brown, cylindrical or slightly tapering, 2.5 cm. in diameter, with numerous scars of broken rootlets, whitish within. It contains a poisonous alkaloid, jervine. The root is one of the Irani poisons, and is used only externally, as a paste for headache and facial neuralgia.—It is also applied as a relief from nasal catarrh (H.F.).

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Verbascum Thapsus L. (Scrophulariaceae)

مازریون

Māzaryūn (Teh.); Mahi zahraj, Bon tamaku (Ar.); Gidar tamaku (Hind.); great mullein.

W.H.M.M. 150758.

This mullein grows from the temperate Himalayas westward to Britain. The drug consists of broken stalks and thick, hairy leaves. The narcotic action of mullein on fish appears to be well known to the Arabs and Iranis, the meaning of Mahi zahraj being "fish poison." Mohammedan physicians prescribe it in gout and rheumatism in combination with aperients. Throughout Europe mullein has long had a reputation in the pulmonary diseases of cattle, on which account it bears the name of cow's lungwort.

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Vetiveria zizanioides Stapf (*Andropogon muricatus* Retz) (Gramineae)

برمکیا

Barmakiyā, Bikh-i-wala (Pers.); Khas Khas (Hind.); Izkhir-i-jami (Ar.); Vetiver (Tam.); root of cuscus grass.

Field 5 (Isf.).

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The use of these fragrant, wiry roots for medicinal purposes and in perfumery has been common in India for a long time. The roots emit a pleasant odor when moist, and for this reason they are woven into screens and mats (tatties) which hang over doors and windows to cool and perfume the atmosphere during the hot season. A paste of the root is applied to the skin to relieve oppressive heat of the body, and a cooling aromatic bath is prepared by adding some broken root to the water. The root yields a fragrant essential oil which commands a high price as a perfume (Otto Stapf, *Kew Bulletin*, 1906, 347–349).

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Vicia Faba L. (Leguminosae)

باقله

Bāghalā (Iraq); Banklent (Bal.); Bakla (Hind.); Baqilla, Baqlah (Turk.); Paglah (Kurd.); broad or horse bean.

Field 4, 56, 69 (Iraq).

This legume is a native of Iran and is now universally cultivated. The beans are a well-known vegetable and an excellent horse food. The shoots are said to be efficacious in rousing a drunkard from

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stupor. The seeds are oblong, 24 by 18 mm. Those of the small variety are oblong, 8 by 5 mm., brown in color, with a white hilum. These seeds are exported from Egypt in large quantities for feeding horses.

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Vigna Catjang Walp. (Leguminosae)

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Lubia (Iraq); Mak (Bal.); Chowli (Hind.); Barbati (Beng.); cow pea.

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Field 58, 93A; 50, 64 (Iraq).

The cow pea is cultivated as an irrigated summer crop and much grown on mud flats along the receding rivers in summer and autumn. The green pods are cooked and eaten as a vegetable and the seeds are eaten as a pulse. The seeds are recognized by their oblong shape, 10 by 7 mm., and white color with a brown or black spot or hilum on one side. The black-eyed variety is known in Italy under the name of Faggiuola del occhio.

Viola sp. (Violaceae)

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گل بنفشه

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Gul-i-banafshah (Teh.); flowers of violet.

Abu Mansur; Ph. Pers.; Ait.; Boiss. 1: 450; Post 118; Ph. Ind. 1: 141.

Field 8, 76; W.H.M.M. 150710; K.B. 343.

Violet flowers are regarded in Iran and the Punjab as a valuable medicine. The sweet violet (*V. odorata*) is stated to be the origin of the commercial article, but as the flowers are frequently broken and mixed with leaves and stalks, it is not possible to determine the species. The drug is astringent, demulcent, and diaphoretic, and mixed with lime juice and sugar, is administered as an infusion for fever and headache.

—Mixed with *Echium amoenum* Fisch. & Mey., *Nymphaea alba* L., *Cordia myxa* L., *Zizyphus vulgaris* L., as well as lime juice and sugar, *Viola* sp. is given in an infusion for headache, fevers (not malarial), and to soften feces before purgation (H.F.).

Vitis vinifera L. (Vitaceae)

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Grapes: 'Inab (Iraq); Angur, Drakh (Hind.).

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Raisins: Kishmish, Munakha (Pers.); fruit of the vine.

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Field 63, Kishmish-askari; 266, Kishmish-i-sabzah; 267, Kishmish-i-dūgh; 99A, 100A, 101A, 102A, 103A, Pasteek.

Grapes, in Sanskrit, Draksha, are noted by Susruta and Charaka; in the dried state they were used in medicine on account of their demulcent, laxative, and cooling properties. The raisins found in India are the sultanas from Kabul and Iran, some of which are very large and pale greenish yellow in color, called Angul Drakh; the black bloom raisins, Kala Drakh, from the same countries, are used for medicinal purposes; and an inferior kind called Munakha is like the pudding raisins sold in England. Pasteek of Baghdad is a confection of raisins and nuts made in Diarbekir and Kurdistan. Soo'juch is another confection of raisins and almonds made in Kurdistan and eaten in winter in place of fresh fruit.

Withania somnifera Dunal (Solanaceae)

بوزیدان

Būzīdān (Teh., Ham.); Aagandh (Hind., Guz.); Sekran (Syr.); Hajarat el dib, "wolf's tree" (Ar.); the root.

Boiss. 4: 287; Fl. Br. Ind. 4: 239; I.H.B.; Post; Ph. Ind. 2: 566; Kew and Pharm. Soc. Museums.

W.H.M.M. 150806; K.B. 343–344.

This is an unarmed shrub with ovate, woolly leaves, inhabiting the south of Europe, Syria, Arabia, India, and Africa. The roots are long, tapering, light brown, with knotty crowns, plump, smooth, white internally, with a short, starchy fracture. The taste is mucilaginous and slightly bitter. From observations on the nature of this plant and the specific names *somnifera* and *hypnotica* given to it by botanists, it might be expected to be harmful to human beings. In Hamadan the root is considered a poison and in parts of Arabia animals refuse to graze on the plant. In Baluchistan, however, it is said to be a vegetable and fodder for goats. Duthie says the shrub is alterative and the root is given to horses. F. B. Power and A. H. Salway (*Proc. Chem. Soc.*, London, 1911) found evidence of an alkaloid and other crystalline principles in the root; but it contained no mydriatic alkaloid, and physiological tests failed to confirm the sedative and hypnotic properties attributed to it.

Zanthoxylum Rhetsa DC. (Rutaceae)

دهن باز دهن بسته

Dahan-bastah, Dahan bastah-bāz (Teh.); Fagara Avicennae.

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Burnt, the ashes are given internally in profuse menstruation and chronic diarrhea.

Under the name of Abrisham, white silk, cut into small pieces, is given in Ajmere as a remedy for impotence (Irvine).

Otoliths of fish (Percomorphi, Sciaenidae)

Sang-i-sar-i-māhī (from Sang, "a stone"; Sar, "a head"; Mahi, "fish"; an allusion to the belief among the natives that the stone is found in the head of a fish), "pea teeth" (Ind.).

W.H.M.M. 51699.

Otoliths are semi-crystalline bodies composed of carbonate of lime, found in the ear sacs of fish. These concretions are sold in Delhi and other cities in northern India. They resemble in color and form the human incisor teeth, being white and smooth, and having both surfaces convex. The concretions are powdered and given for urinary diseases, chiefly in the suppression and retention of urine (Khory).

Tortoise eggs (*Testudo horsfieldii* Grey and *T. graeca*. Chelonia)

تخم لاک پشت

Tukhm-i-lāk-pusht, "eggs of the hard-backed one" (Teh.); Sur-kūk (Afg.); Lek-poshte (Schl.); tortoise eggs.

W.H.M.M. 150899.

These are globular, orange-colored, waxy bodies, 2 cm. across, disintegrating in water, leaving a yellowish powder, insoluble, with oily globules on the surface. Eggs of the tortoise are used by the Bruhies (Afghanistan) whipped up with water and smeared over the pustules as a remedy to prevent pitting from smallpox (Bellew). In Assam the eggs are also eaten and used medicinally. The eggs and flesh are said to be aphrodisiac. People of the Makran coast (Baluchistan) have a custom of tying a piece of turtle shell to any animal having a stoppage of urine.

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Milk curds from *Bos indicus* (Ruminantia)

قر قروت

Qar-i-qurūt (Teh.); Karūt, Krūt (Afg.); dried oxygal, hardened cheese.

Field 238.

Qurūt or Karūt occurs in round balls or cakes of varying shapes made from the milk of cows, buffaloes, or goats. It is usually

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obtained by evaporating sour buttermilk, pressing out the whey in bags, by hand, and drying the solid curd in the sun. These cakes are used by Afghans and residents of the black tents of Helmand, who carry them on their tours as a favorite article of diet. When required, the cakes are mixed with water, brinjal fruits and bread added; the whole forms an admirable dish. The Qar-i-qurūt from Tehran is a blackish brown mass, acidulous and salty to the taste, largely soluble in water; it is very similar to meat extracts sold in America and Europe.—The preparation is used as a soup following vermifuge treatment (H.F.).

Kashk Kashk (Kurd.).

Field 61.

These are balls of casein, butter, and salt, prepared from milk. They probably represent the "Pleasant Food" (Khushk horāk) flavored with asafoetida, used in Afghanistan (Aitchison).

Camel's flesh, dried from *Camelus dromedarius* L.; single-humped or Arabian camel

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کوهان شتر

Kūhān-i-shutur (Teh.); camel's hump.

Field 140.

The specimen is a piece of yellowish white, dried, fibrous flesh from the hump of a camel. This peculiar drug is directed to be mixed with fat and made into an ointment for piles. The Tatars use the hump cut into slices, which, placed in tea, serve the purpose of butter. Camel's meat is eaten by Greeks and Iranis; the flesh of the young dromedary is considered by Arabs to be equal to veal. Ainslie states that the rennet of the camel, which the Iranis term Punir-mayeh-shutur, is placed among their aphrodisiacs; Honigberger calls the substance Camelinum coagulum and says it is highly esteemed by Arabian doctors.

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Bezoar stones from *Capra aegagrus* Gmel.; Persian wild goat

پادزاهر

Pādzahr (Pers.); Fadzehre heyvani (Schl.); Gorochan (Hind.); bezoar stone.

W.H.M.M. 199302.

The bezoar stone appears to have been first used as a medicine by the Arabian physician Avicenna. Razis in his "Continens" describes